BETHEL TOWNSHIP
LEBANON COUNTY

COMPREHENSIVE PLAN

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Prepared By:
Hanover Engineering Associates, Inc.
20-C Snyder Lane
Ephrata, PA 17522
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CHAPTER 1
INTRODUCTION

Almost three decades have passed since the Bethel Township Comprehensive Plan was prepared. During this time period, the population of the Township has continued to grow, and the development of additional land has occurred, primarily in the form of residential construction. Some of the specific proposals from the previous Plan have been achieved. More continue to be pursued by Township officials.

In order to address continued pressure for development in the Township, the Board of Supervisors authorized this update of the Comprehensive Plan. This document summarizes the results of detailed background studies of existing conditions in Bethel Township, provides updated community development goals and policies, and proposes measures to realize these goals.

The Need for A Plan

A comprehensive plan is an expression of good community sense and forethought. Comprehensive planning illustrates a community’s interest in current and future events both within and beyond its boundaries, and is also a demonstration of civic pride because it represents substantial efforts and funds invested by residents and public officials in developing the means to protect and preserve significant features of the community while addressing the consequences of growth, development and an increasing population. Essentially, a comprehensive plan evaluates resources (both physical and social), identifies goals and objectives, then develops implementation strategies to meet these goals and allocate resources. The comprehensive plan is prepared to help local officials administer the Township’s land use planning program, based on objective data and clear goals.

The Plan is also a compilation of data (both background information and future projections) that support policy goals and specific regulations. Bethel Township officials and other government agencies, prospective residents, and businesses may use the Plan as a reference resource. Additionally, the comprehensive plan is intended to provide a level of certainty and stability for local neighborhoods, which directly affect people in personal and physical ways. For a healthy community to prosper, people need reassurance that their environment will maintain its "sense of place". For example, the stability and compatibility of surrounding land uses are crucial issues to the owner of a single-family home. Also, farmers require assurance that their way of life will not be
subject to unnecessary restrictions as a result of nearby changes in land use. Prospective developers, additionally, must be able to plan for a project using clear and explicit regulations. A secure investment and business climate must be maintained through reasonable adherence to the comprehensive plan.

A comprehensive plan does not intend to prevent growth. By nature, it encourages well-planned and appropriate growth, while striving for a balance between conflicting or competing interests. Arriving at such a balance is no simple task. Many residents, landowners and officials will contribute to the creation of the Plan. The Plan is an attempt to provide acceptable levels of satisfaction to different groups while conforming to the regulations established in the Pennsylvania Municipalities Planning Code (MPC).

A comprehensive plan is also not a "one time", static document; it is intended to be flexible and accommodate inevitable changes and allow appropriate responses to unforeseen events. It should be a dynamic and evolving tool that must be periodically reviewed and revised so that it may continue to guide the Township into the Twenty-first Century.

**The Essential Elements of a Comprehensive Plan**

Ten related basic elements are included in a comprehensive plan, as required by the Pennsylvania Municipalities Planning Code, as Amended by Acts 67 and 68 of 2000, which went into effect on August 21, 2000. The basic elements are as follows:

1. **A statement of objectives of the municipality**, concerning its future development, including, but not limited to, the location, character and timing of future development; [this may also serve as the Statement of Community Development Objectives for the Zoning Ordinance].

2. **A plan for land use**, which may include provisions for the amount, intensity, character and timing of land use proposed for residence, industry, business, agriculture, major traffic and transit facilities, utilities, community facilities, public grounds, parks and recreation, preservation of prime agricultural lands, flood plains and other areas of special hazards and other similar uses;

3. **A plan to meet the housing needs of present residents and of those individuals and families anticipated to reside in the municipality**, which may include conservation of presently sound housing, rehabilitation of
housing in declining neighborhoods and the accommodation of expected new housing in different dwelling types and at appropriate densities for households of all income levels;

4. A plan for movement of people and goods, which may include expressways, highways, local street systems, parking facilities, pedestrian and bikeway systems, public transit routes, terminals, airfields, port facilities, railroad facilities, and other similar facilities or uses;

5. A plan for community facilities and utilities, which may include public and private education, recreation, municipal buildings, fire and police stations, libraries, hospitals, water supply and distribution, sewerage and waste treatment, solid waste management, storm drainage, flood plain management, utility corridors and associated facilities, and other similar facilities or uses;

6. A plan for the protection of natural and historic resources to the extent not preempted by Federal or State law. This includes, but is not limited to; wetlands and aquifer recharge zones, woodlands, steep slopes, prime agricultural land, flood plains, unique natural areas and historic sites.

7. A plan for the reliable supply of water, considering current and future water resources availability, uses and limitations, and including provisions adequate to protect water supply sources.

8. A statement of the interrelationships among the various plan components, which may include an estimate of the environmental, energy conservation, fiscal, economic development and social consequences on the municipality;

9. A discussion of short- and long-range plan implementation strategies, which may include implications for capital improvements programming, new or updated development regulations, and the identification of public funds potentially available; and

10. A statement indicating that the existing and proposed development of the municipality is compatible with the existing and proposed development and plans in contiguous portions of neighboring municipalities, or a statement indicating measures which have been taken to provide buffers or other transitional devices between disparate uses, and
a statement indicating that the existing and proposed development of the municipality is generally consistent with the objectives and plans of the County Comprehensive Plan.

Steps of the Planning Process

There are four major steps required in the process of producing a comprehensive plan: (1) the survey and analysis of existing conditions and trends, (2) the determination of policies and goals, (3) the combining of existing conditions and goals into a comprehensive plan, and (4) the implementation of the policies and proposals of the comprehensive plan.

1. **Community Inventory and Analysis.** The initial step in any planning process is to review a wide range of existing conditions. This survey and analysis of existing conditions will provide the information on which policies and the plan are based.

2. **Policy Determinants.** The identification of the Township's desired role within Lebanon County and the determination of policies that best carry out this role are the heart of the plan. Whereas the survey and analysis and comprehensive plan stages can be accomplished largely through professional planning assistance, there is no way in which policy determination can be made by other than the Township itself and still consider the Plan to be a useful local document.

3. **Comprehensive Plan.** A comprehensive plan combines the information gained during the survey and analysis with the policies established in the policy determination step. The uses of a comprehensive plan are several. First and foremost, the comprehensive plan provides a means for setting forth a unified group of general proposals for the physical development of the Township. Second, after adoption, the plan will enable the Township Supervisors, Planning Commission and the general public to review current issues and proposals against a clear picture of what has been decided as the most desirable plan for the future physical development and character of Bethel Township.

Third, through the plan, the Township will be able to present a clear picture of its long range and general policies of development to all outside persons concerned with the area’s development. Fourth, the comprehensive plan
will help educate all who read it regarding existing conditions, problems and opportunities; the possibilities of the future; the present situation and projected future trends; and the policy of the Township's government with respect to physical development.

4. Implementation. The final and critical step is the process of carrying out the policies and proposals contained in the plan. Unfortunately, implementation cannot be accomplished by a single act or in a single document. It is a continuous series of individual private actions, which must be monitored by responsible public agencies, and public action initiated when feasible and timely. The success of such efforts will require the cooperation of Township residents and the coordinated efforts of its public officials and agencies.

Interrelationships Among Plan Components

The six major components of the Comprehensive Plan - Land Use, Housing, Transportation, Community Facilities, Water Supply, and Natural and Historic Resources - are all closely interrelated. The premise on which this Comprehensive Plan is based is that the Township will continue to be predominately agricultural in nature, but also will continue to be an attractive location for future residential, commercial and industrial growth as well. The Plan elements have been written with the understanding that this future growth must be accommodated in a way that best benefits the current and future residents of the Township.

The population of the Township is projected to continue to increase into the foreseeable future. In order to accommodate this increased population, additional housing units will need to be provided. There will be a need for a mix of types of housing units so that individuals of all age groups, family size and economic level have equal opportunities to reside in Bethel Township. The Future Land Use Plan provides for this by designating areas of the Township for all different densities of residential development. The Zoning Ordinance - one of the techniques to implement the proposals of the Comprehensive Plan - will need to be reviewed and updated as necessary to provide the specific detailed regulations to support the accomplishment of the Plan's stated housing goals.

The location of future development, particularly residential development, will have an impact on the transportation facilities of the Township. Concerns over the capacity of the existing thoroughfare system, and development pressures in the future, resulted in the proposed reduction in residential densities in certain portions of the Township. Similarly,
higher density residential and non-residential uses were proposed near the primary traffic routes to minimize impacts on the local road network.

The availability of public facilities, primarily water and sewer service, has a direct impact on the location of and intensity of areas proposed for future development in the Township. Those portions of the Township which are not proposed for the extension of such utilities, along with areas of environmental concern - such as wetlands, floodplains and stream valleys, steep slope areas and prime agricultural areas - were the areas proposed for agricultural, rural and open space uses in the Future Land Use Plan.

**How to Use the Plan**

This Plan is organized to facilitate its easy use and interpretation. The Plan begins with an overall **Statement of Goals and Objectives**, which lists the general goals from which more specific recommendations and policies are developed. The next section, on **Background Studies**, is an analysis of the conditions, which influenced the current development of Bethel Township. In the **Comprehensive Plan** section, broad plans are suggested for the Township's future land use, transportation, housing, community facilities and utilities, and natural and cultural environment. **Implementation** policies then provide specific steps to achieve the major goals and plans.

This Plan includes a number of maps, which are a basic planning tool for the Township. These maps contain information with which the Township can develop and implement its goals, but can also be used on a continuing, day-to-day basis by the Township Supervisors, Planning Commission, private citizens, builders, business owners, service providers, and others. Other parts of the Plan, including population studies, physical analyses, and transportation analyses can be similarly utilized by others.
CHAPTER 2
COMMUNITY DEVELOPMENT GOALS

To be effective, this Comprehensive Plan must reflect the common goals of the residents of the Township. These goals range from physical policies, such as the appropriate use of land, to social and educational policies. Once these goals are formed, they represent a context within which decisions can be made regarding the use of land and the conservation of resources.

Community Participation

Since October of 2000, Bethel Township representatives have worked with technical experts to prepare this Comprehensive Plan for Bethel Township. As representatives of the residents of the Township, the Planning Commission and the Board of Supervisors must make some critical decisions about where, when, and how the Township will grow. The first and most important section of this Plan is to clearly articulate the goals and objectives of the Township leaders in terms of comprehensive planning for conservation and development.

As a first step in the planning process, a Comprehensive Plan Review Committee was formed to develop a draft of a new Comprehensive Plan for Bethel Township. Members of the Comprehensive Plan Review Committee included representatives from the Board of Supervisors, Township Planning Commission, Township Engineer, Township Solicitor and Planning Consultant. A Public Meeting on behalf of the Township Planning Commission was held on February 21, 2002 to present the draft Plan document to the public for review and comment prior to the distribution of the draft plan to the Lebanon County Planning Department, the School District and all adjacent municipalities for the opportunity to comment. The required Board of Supervisors' Public Hearing on the Draft Plan was held on July 25 2002. Comments from citizens and Township officials have been used to develop general goals regarding land uses, development, environmental protection, and other issues.
Resident's Survey

As one of its initial efforts, the Committee members decided to seek input from all of the Township's residents. Therefore, in March 2001, a Resident Survey was distributed to all residents within the Township. 1569 surveys were distributed and a total of 680 completed surveys were returned (a response rate of over 43 percent.) The results of the Resident Survey will serve as a valuable tool for the Township and will be referenced throughout this Plan where appropriate. The resident responses indicated a desire for a continuation of the Township's "rural lifestyle" and "peace, quiet and serenity", as well as a corresponding preference, on the part of the majority of respondents, for limitations on future residential, industrial and commercial growth. The following represents a summary of the survey responses. A detailed summary of the survey results may be found in Appendix A.

- Overall, 82 percent of the respondents had lived in the Township at least 10 years; 45 percent had lived there over 25 years.

- The vast majority responding indicated that their property was used for residential purposes. (32 percent of the respondents owned less than one acre; 68 percent owned 5 acres or less of land.)

- Over 78 percent anticipated that nothing different would happen to their land in the next ten years.

- Approximately one-third of the respondents indicated that they worked in the Township, with an additional 39% working elsewhere in the County; and 28 percent of residents working outside Lebanon County.

- 80 of the respondents indicated that they derived some income from farming – half considered themselves to be full-time farmers.

- Gardening and running/walking were the two forms of outdoor recreation by far the most frequently identified by the survey respondents, with hunting mentioned as the third most frequent activity.

- Township residents ranked (1) "rural lifestyle", (2) "peace and quiet" and (3) "natural beauty/scenery" as the three most important qualities of life in the Township. "Agricultural areas" and "family ties" were also frequently cited.
When asked to identify community services needed in the Township, "police" was cited the most frequently, followed in order by "minor road improvements," "recycling (door-to-door)," "parks" and "major road improvements." A recreation center and public water/sewer service (in currently unserved areas) were also cited frequently.

The highest ranked things identified as detracting from the Township were too much development, traffic and loss of farmland.

The three things most often cited as what residents liked about the Township were (1) open space/rural atmosphere, (2) farmland and (3) small town feeling. Among other things noted were accessibility to larger towns in the region, beauty/scenery, low crime rate, friendly residents, etc.

In terms of the character of future development in the Township, the majority of respondents were in favor of residential development scattered throughout the Township on large lots/"just like it's been happening; less than one-third of the respondents were in favor of development on small (less than one-acre) lots. The vast majority was opposed to higher density forms of residential development – such as townhouses, apartments and mobile home parks. If additional commercial development is to occur, the forms of commercial development favored by the respondents to the survey were uses that would service the day-to-day needs of Township residents (i.e., home based businesses, convenience stores and neighborhood shopping). Only approximately one-third was in favor of additional industrial development. The forms of industrial development most often cited were warehousing and electronics/"high tech" manufacturing. The location most often identified for new commercial and industrial development was in the I-78/U.S. 22 corridor east of Fredericksburg.

Respondents strongly favored the preservation of agricultural lands, woodlands and historic resources. Roughly two-thirds preferred that Bethel Township remain "rural" in the future.
COMMUNITY DEVELOPMENT GOALS AND OBJECTIVES

The overall goal guiding the future development of a community is the creation of physical, social and economic environments which will continue to provide its residents with increasingly better places in which to live, work and play. Above all, protection of the public health, safety and general welfare is a basic goal in the formulation of the community's Comprehensive Plan and its implementation.

The Goals and Objectives from the 1973 Bethel Township Comprehensive Plan area as follows:

**PRIMARY GOAL:** To focus development in the areas most suitable for residential growth, and discourage haphazard, scattering of such uses.

1. **Protection of Inherent Agricultural Land**

   Agricultural land must be conserved as a potential source of food supply for future generations. Sporadic development in agricultural areas must be discouraged in order to curtail indiscriminate scattering of land uses; appropriate land can be designated for development purposes as the need arises. Additionally, this action insures the township of adequate open space through the preservation of agricultural land.

2. **Preservation of Open Space and Aesthetically Appealing Lands**

   The preservation of open space is vital if future generations are to enjoy the beauty of scenic open lands, attractive wooded areas and the gently rolling terrain characteristic of Central Pennsylvania and Bethel Township. Such lands, though abundant now in the township, must be protected from indiscriminate development in order to insure their future existence.

3. **Conservation and Preservation of Flood Plain Areas to Protect them from Unnecessary Development**

   Streams and waterways are valuable natural resources that must not be encroached upon by development. Such development along waterways tends to increase flooding, erosion and water pollution. Additionally, development must be controlled to limit losses of life and property during flooding conditions.
4. Promotion of Orderly Growth and Development

The sporadic scattering of development upon any available lots must be controlled by promoting orderly growth that gradually surrounds the existing population concentrations, i.e. Fredericksburg and Mt. Zion. Only in such areas can vital community services be economically and feasibly provided. This type of development will also provide for the protection of open spaces and agricultural land, while eventually, changing the residential scatterings into more identifiable, concentrated developments.

5. Provision for Adequate Community Facilities

The availability of community services proximate to the residential centers is of primary importance to today's homeowner. Adequate recreational, educational and administrative facilities should be encouraged near the residential areas where they are most needed.

6. Control of Land Uses

Adequate land area must be available for all desired and permitted uses; however, various uses of land do not always apply to each parcel. Therefore, ample areas should be designated for each use after carefully selecting the uses to be encouraged. Eventually, all appropriate uses in the township will be so oriented that industrial, commercial, highway (interchange) commercial, agricultural and residential uses may co-exist compatibly through wise control of land use.

The Bethel Township Comprehensive Plan Committee has identified more specific community goals as they relate to the six major components of the Comprehensive Plan. In addition, policy statements, which outline the procedure to accomplish these goals, and specific proposals for action have been identified. They are as follows:

GOALS USED TO DEVELOP THE NATURAL AND HISTORIC RESOURCES PROTECTION PLAN

- To encourage the preservation of our natural resources by conserving areas of woodland and open space - especially in areas of floodplains and steep slopes.

- To encourage the retention of prime agricultural lands and the continuation of agriculture as a sound economic activity.
**Agricultural Preservation Policies**

- Encourage the preservation of the more fertile soils for farming.
- Encourage the continuation of agriculture in productive soils areas.
- Encourage the location of agricultural operations requiring public utilities and transportation services in areas accessible by adequate transportation and utilities services, and where they do not negatively impact other agricultural operations.
- Enact and enforce zoning controls that will encourage the continuance of agricultural activities.
- Avoid restricting or hampering agriculture because of preventable urban-agricultural conflicts.
- Discourage the use of rural areas as the dumping grounds for land uses that are not wanted elsewhere.

**Conservation Policies**

- Encourage the retention of farmland and/or other open space uses in order to help meet the requirements of environmental health.
- Encourage the preservation of floodplains and wetlands along streambeds, woodlands and steep slope areas by the use of restrictive zoning measures such as floodplain controls and conservation/greenways zoning.
- Encourage an effective program of historic preservation with the joint participation of individual citizens, interested civic groups and all levels of government.
- Preserve the natural features of the Township by encouraging a low order of development in the more environmentally sensitive portions of the Township.

**GOALS USED TO DEVELOP THE FUTURE LAND USE PLAN**

- To minimize the conflicts between the agricultural and suburban sections of the Township by directing urbanization to certain areas while preserving certain agricultural sections.
- To identify locations for urban development that can be efficiently serviced by the necessary infrastructure.
• To encourage the development of residential areas that include several types of uses that complement one another but are carefully located within the neighborhood to prevent conflicts between different uses.

• To identify adequate areas for commercial and industrial uses in locations that will cause a minimum of problems for all concerned.

Conservation Policies

• Plan future growth and development to enhance the value of man-made improvements.

• Endeavor to protect the tremendous investment that already exists in homes, commercial, industrial and agricultural enterprises, highways and countless other private and public facilities.

• Encourage the rehabilitation, replacement or elimination of physically unsound or poorly located structures.

Residential Policies

• Assure that residential areas have sufficient space, privacy and convenience to meet accepted standards of community health, safety and welfare.

• Strive to maintain or raise residential values by preventing the introduction of incompatible uses, by requiring good standards in new residential development, and by preserving, protecting and using natural beauty whenever possible.

• Encourage the development of a full range of housing types in order to meet the varying needs of all families.

Commercial Policies

• Limit the number of business locations in the Township, giving primary consideration to established commercial locations and the need to protect existing residential and agricultural areas.

• Plan the locations of commercial areas so that they are convenient to residential areas and provide sites that have easy access for customers, employees and suppliers.

• Limit the locations of commercial development to sites near to major traffic thoroughfares, while at the same time separating commercial traffic from through traffic.
• Require that adequate off-street parking and loading areas be provided in all shopping developments and, to the extent possible, separate vehicular and pedestrian traffic.

**Industrial Policies**

• Plan the location of industrial areas so that they will be easily accessible to the labor supply, raw materials, markets and related activities. However, the industrial areas should not be located within residential areas, or where traffic must pass through solely residential roadways to gain access to the industry.

• Through zoning, protect future industrial areas from encroachment by other land uses during the period of time preceding their development into industrial sites.

• Enact and enforce regulations that will result in new industries to be developed to modern standards with adequate sites that will allow for future expansion, adequate off-street parking and loading facilities, and adequate buffer areas where adjacent to other uses.

• Encourage a wide range of industry types in order to assure a more balanced future economic base.

• Seek to minimize any adverse effects of industrial development through the use of design and performance standards.

• Give primary consideration to the effect that a particular industry at a particular site will have on the natural environment.

**GOALS USED TO DEVELOP THE HOUSING PLAN**

• To allow for a wide range of choices in housing types, costs and locations.

• To discourage and/or prevent areas of blight and substandard housing conditions so that they contribute to the overall well being of the Township.

**GOALS USED TO DEVELOP THE TRANSPORTATION PLAN**

• To discourage growth in areas of the Township where the roadway system cannot handle increased traffic, while allowing growth in those areas that can support anticipated through traffic volumes and provide access to major traffic generators - both in the Township and in areas serving the Township.
• To facilitate a system of collector roads that can accommodate local traffic between residential areas, and to and from arterial highways.

• To encourage the maintenance of the exclusively local nature of residential streets, thereby keeping the residential areas free of any but low speed, low volume local traffic.

• To require the provision of sufficient off-street parking to make it possible to use the entire paved surface of high-cost roadways to carry vehicular traffic.

• To encourage a balanced system of transportation and transit facilities in order to minimize energy utilization and to meet the different needs of people, business and industry.

Transportation Policies

• Require the addition of new streets to the road system to serve proposed new uses, while assuring that new streets and roadways fit into the existing system so that both will function effectively and safely.

• Facilitate the improvement of existing major roads to handle increased traffic. Since major roads receive state aid, the cooperation of the proper agencies must be solicited to ensure adequate and timely improvements to the Township’s roads.

• Discourage on-street parking on major roadways to prevent interference with traffic.

• Continue a program of widening and resurfacing local roads.

• Concentrate local roadway maintenance funds in areas of greatest need.

• Encourage and support the provision of a rural mass transit system in the county to meet the needs of the Townships transit-dependent citizens.

• Continually revise the Transportation Plan as new elements are proposed at Federal, State and County levels.

GOALS USED TO DEVELOP THE COMMUNITY FACILITIES PLAN

• To encourage the preservation and development of adequate open space and recreation areas in the Township to serve the growing needs for leisure time activities.

• To encourage the provision of adequate fire and police protection facilities and other community facilities and services to assure the welfare and safety of the residents in all parts of the Township.
Community Facilities Policies

- Develop public recreation facilities.
- Support the development of private and semi-private recreation facilities.
- Encourage the preservation of open areas that have a potential for natural recreational sites.
- Work with and support the School District and other Bethel Township area organizations to encourage adequate educational, and cultural opportunities for Township residents.
- Strive to combine public and semi-public buildings and recreational sites wherever possible in order to benefit from convenience and economy.
- Assure the development of neighborhood playgrounds by requiring the dedication of land or payment of fees during the development of new residential subdivisions.

GOALS USED TO DEVELOP THE UTILITIES PLAN

- To encourage the provision of adequate utilities and services to assure the welfare and safety of the residents in all parts of the Township.
- To ensure a safe and reliable water supply for all activities and development in all parts of the Township.
- To encourage the provision of adequate stormwater management facilities for the protection and preservation of existing and future water supplies - both surface and subsurface - and the protection of private and public property.

Water Supply Policies

- Encourage the provision of public water service to serve existing and proposed growth areas within the Township.
- Discourage the extension of public water service outside the existing and proposed growth areas except to alleviate an otherwise existing public health problem.
- Enact regulations that ensure a safe and reliable water supply for all activities and development that occur outside of the existing and proposed growth areas within the Township.
**Wastewater Disposal Policies**

- Encourage the provision of public sewerage service to adequately serve all existing and proposed growth areas within the Township.

- Discourage the extension of public sewerage service outside the existing and proposed growth areas except to alleviate an otherwise existing public health problem.

- Enact regulations that ensure a safe and reliable wastewater disposal method for all activities and development that occur outside of the existing and proposed growth areas within the Township.

All of the plans for land use, housing, transportation, community facilities/utilities and natural/historic resources preservation that follow have been developed and evaluated according to these stated goals and objectives. The Township should use these goals and objectives to review any proposed land subdivision or development, and to assess its impact on the public health, safety, and welfare.
CHAPTER 3
BACKGROUND STUDIES

This Chapter includes inventories and analyses of various physical, cultural and demographic resources that will have a direct bearing on the development of the Township. This information will be valuable for Township officials as well as developers, property owners, and others.

Regional Context

Bethel Township is located in the northeastern portion of Lebanon County. The Township is bounded on the north by Union Township, on the east by Pine Grove Township (Schuylkill County), Bethel and Tulpehocken Townships (Berks County) and Jackson Township, on the south by North Lebanon Township, and on the west by Swatara Township. The Township encompasses approximately 35.1 square miles of land area. The major roads in the Township are Interstate 78, U.S. Route 22 and PA Route 343. Interstate 81 also passes through the Township – but is not directly accessible from the Township. The major industries in Bethel Township are farming and poultry processing. Other large industrial facilities in the Township include the Sherwin Williams and Maple Press facilities. The population center of the Township, Fredericksburg, is located approximately eight miles north of the center of the City of Lebanon. Other concentrations of population include Mt. Zion, Freeport Mills, Greble, Hamlin, Shirksville and Camp Straussse.

Physical Features and Natural Resources

Physical features and natural resources may be either renewable or non-renewable. Some resources are easily ruined and many are irreplaceable. Although many resources such as air, water, and timber can renew themselves, they do so in a time frame often beyond cultural intervention. Frequently, the ability of humans to deplete resources has not been balanced by our ability to restore them. While individual landowners have few limitations upon their land use and may not intend to degrade the natural environment at the Township level, the cumulative effects of improper land use management can pose severe threats to public health, safety and welfare. Encroachment of development in
marginal areas may result in damage to existing homes through flooding and other physical actions.

Prime agricultural topsoil, which formed over centuries, may be lost through erosion in a single season. Entire tracts of mature woodlands and wildlife areas that have stood for generations may fall in a single season if they are clear-cut. A single new home with soil unable to renovate septic tank effluent may pollute wells, groundwater, and surface water for an entire village.

There is a practical implication to viewing land as a resource rather than as a commodity. The unique and irreplaceable beauty, character and sense of community in the Township have been recognized as a resource worth protecting. Land use management should occur in a framework of stewardship and in harmony with the long-term preservation of the land. Natural resources are essential to the quality of life in Bethel Township and the following sections provide information intended to promote their appropriate management.

Topography and Drainage

There are two primary mountain ranges in the northern portion of Bethel Township – Little Mountain and Blue Mountain. These comprise approximately thirty percent of the total land area of the Township. South of these mountains, the Township changes into moderately rolling terrain, primarily devoted to agricultural use. The highest elevations in the Township, over 1500 feet, are found in the Blue Mountains in the northern portion of the Township. The lowest elevation in the Township, approximately 420 feet above sea level, is found along the Little Swatara Creek in the southwestern portion of the Township. All of Bethel Township lies within the Susquehanna River Drainage Basin.

Bethel Township has several waterways within its boundaries. The major waterways are the Swatara Creek and Little Swatara Creeks. Minor waterways include the following:

<table>
<thead>
<tr>
<th>Earlakill Run</th>
<th>Elizabeth Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beech Run</td>
<td>Deep Run</td>
</tr>
<tr>
<td>Monroe Creek</td>
<td>Oil Creek</td>
</tr>
</tbody>
</table>

These streams empty into either the Swatara or Little Swatara Creeks, which form a segment of the Susquehanna River Basin. Monroe Creek, which flows through the valley formed by Little and Blue Mountains, feeds Lake Strausse and Weiss Dam.
Slope

Two different methods of depicting slope have been provided. The first method is based on Soil Survey mapping. The Soil Survey based slope mapping includes five major categories, as follows:

- **0% to 3% Slope**: Such slopes, according to the Soil Survey, are generally suitable for all development uses.

- **3% to 8% Slopes**: These slopes are suitable for medium density residential development, agriculture, and nearly all commercial, industrial and institutional uses.

- **8% to 15% Slopes**: Slopes of this nature are best suited for moderate to low density residential development, however, considerable care should be exercised in the location of any commercial, industrial or institutional uses.

- **15% to 25% Slopes**: Such areas are only suitable for low-density residential, limited agriculture, and recreational uses.

- **Over 25% Slope**: This steeply sloping land should be used for only open space and certain recreational uses.

In Bethel Township, three additional slope categories have been identified:

- **Areas of 0% to 5% Slope**: This category is generally located on upland flats, foot slopes and in depressions.

- **Areas of 0% to 8% Slope**: This category is a combination of two other categories, and is generally located in upland depressions and on foot slopes.

- **Areas of 2% to 10% Slope**: This category is generally located on lower foot slopes on uplands.

- **Areas of 8% to 25% Slope**: This category is a combination of two other categories, and is generally located on Blue Mountain and Little Mountain.
0 to 3, 0 to 5, 0 to 8, and 2 to 10 percent slopes are found along the Swatara, Little Swatara and most other creeks in the Township. (See Soils-Based Slope Map). They are also found at other scattered locations in the Township (mainly the crests of hills). 3 to 8 percent slopes comprise more than half of the land area of the Township. They dominate the southern two-thirds of the Township, and are also located in the Swatara Creek and Monroe Valleys. The vast majority of these slope areas are in agricultural use, with a significant portion also being developed for residential, commercial and industrial uses. The 8 to 15 percent slopes are found in many parts of the Township, and are generally located adjacent to the 3 to 8 percent slopes, and upgrade from the many stream valleys.

15 to 25 percent slopes are found in the fingers leading from the creeks and on the slopes of Blue and Little Mountains in the northern portion of the Township. Rather extensive areas of 8 to 25 percent slopes are also found in these areas of the Township, as are the 25 percent and greater slopes.

The second method for depicting slope is based on USGS (United States Geological Survey) topographic mapping. The Quadrangle-Based Topography Map shows the Township with 20-foot contour mapping – with each contour line representing a 20-foot change in vertical elevation. The greater the horizontal distance between contour line, the gentler the slopes. Conversely, the closer together the contour lines, the steeper the slope. The steepest portions of the Township are the slopes of Swope Mountain, Blue Mountain and Little Mountain, as well as the side slopes of many of the stream valleys. The most level portions of the Township are in Monroe Valley and in the central/south-central portions of the Township.

Climate

The climate of Lebanon County is humid continental. Most weather systems that affect the County develop in the central United States. Another influence is the Atlantic Ocean. These factors combine to produce extremes only when the county is affected by unusually strong weather systems. The average annual precipitation in Lebanon County is approximately 42.3 inches – with the winter season usually receiving slightly less than the other seasons. Average seasonal snowfall is about 27 inches. In winter, daytime temperatures average in the upper 30’s; nighttime minimum temperatures drop in to the low 20’s. Spring and fall are transition periods. Temperatures become more summer like in April, and the average daily maximum in the 60’s indicates a shift to the summer season. October is pleasant, with daytime highs in the 60’s. In summer, high temperatures reach
the mid-80’s, and clear nights have pleasant temperatures near 60°F. Extended periods of hot and humid weather occur – with temperatures hotter than 90°F on an average of 25 days per year. The average growing season for Lebanon County is 176 days. The average date of the last spring freeze is April 23, and the first fall freeze occurs on October 16.

**Floodplains**

Another important facet of the Township’s physical features is an examination of floodplains. The floodplain area is defined as that area subject to frequent periodic flooding. (See Floodplains Map). The basic reasons for interest in floodplains are as follows:

- to prevent unnecessary property damage;
- to minimize danger to public health by protecting the water supply and promoting safe and sanitary drainage;
- to reduce financial burdens imposed on the community, its government, and its residents by frequent and periodic floods;
- to provide sufficient drainage courses to carry abnormal flows of storm water in periods of heavy precipitation; and
- to provide area for groundwater absorption for maintenance of the subsurface water supply.

Areas that are prone to flooding should not be developed for residential, commercial or industrial purposes. These areas adjacent to water bodies which are covered by flood water during times of flooding play the important role of carrying flood waters during periods of flooding. If development occurs within these areas subject to flooding a danger to persons and property can result. If development occurs which constricts the area over which flood water may flow, this may result in increased flood damage downstream because the flood waters have been constricted and not allowed to flow where they normally would, thus increasing flood velocity which can result in increased downstream flood damage potential.
If development occurs within the areas along watercourses, increased sedimentation within the stream (increased depositing of soil within the stream) is likely to occur because sediment will be more likely to reach the stream if the land along the stream is disturbed and if more impervious surfaces (roofs, paved areas) increase the storm water runoff near the streams. This runoff may erode stream banks and channels. If sedimentation is increased, the streambed may be filled, causing floodwaters to cover a larger area, stream meandering may be caused, life in the stream may be choked, and the esthetic value of the stream seriously impaired.

On-site sewage disposal systems should not be located within the areas subject to flooding because of the danger of contamination of the stream and the groundwater due to the proximity of the stream and the presence of a high water table. Since there may not be an adequate distance between the on-site facility and the surface water, sewage effluent may not be able to be renovated prior to reaching the stream. In some instances, soils found in flood plains are very porous and the movement of sewage effluent is too rapid to allow for the renovation of the effluent prior to reaching the ground water table or the stream. In other situations, the soil near the surface may be saturated with water or become readily saturated with sewage effluent, resulting in effluent remaining near or rising to the surface of the land. When flooding occurs, sewage effluent may contaminate the surface water. The efficiency of filter fields of septic tanks can be impaired or destroyed as a result of flooding.

It is best if the areas on either side of streams are not impervious (such as paved) surfaces. As surface runoff of water moves toward streams, water can be absorbed into the ground if the water does not move over impervious surfaces. Increased absorption can result in replenishment of the ground water and also in decreased flood peaks because less water reaches the stream from the surface of the land. An inadequate supply of ground water can mean an inadequate flow of water in the stream during dry summer months. Failure to sustain stream flow also could mean a greater concentration of pollutants at periods of low flow.

**Storm Drainage**

Storm drainage is a concern of any developing area. Man’s encroachment upon the natural drainage system with residential, commercial, and industrial development has served to create drainage problems with accompanying flooding potential of the developed areas. As more intensive development is created or expanded, former forests and natural open areas are regraded and replaced by buildings, sidewalks,
parking lots, and paved streets. Hence, the once porous surfaces are sealed off and the hydrologic cycle as it once operated is altered substantially. Much of the water that would normally be absorbed into the ground must flow over the impervious surface. Therefore, curbs and gutters, storm drains, retention basins and other facilities must be planned and subsequently constructed.

The enactment of Act 167, the Storm Water Management Act, has resulted in additional requirements for provision of storm water and floodplain management facilities in new land developments. The Bethel Township Subdivision and Land Development Ordinance includes performance standards for storm water runoff and serves to encourage the use of innovative measures for the control of storm water runoff.

**Wetlands**

As defined by DEP, EPA, and the US Army Corps of Engineers, wetlands are those areas which are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas that possess three essential characteristics: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology.

Wetlands have become recognized as uniquely important components of the landscape by scientists, engineers, public interest groups, and governmental agencies. Their importance lies both on the traditional values of wetlands as areas of fish and wildlife protection as well as in newly found values of wetlands as areas of storm water management.

National Wetlands Inventory (NWI) Maps were compiled by the U.S. Fish and Wildlife Service using color infrared aerial photos for the identification of wetlands using soil moisture content. The quality of the maps varies greatly depending on the quality of the photos, the time the photos were taken, and the type of wetlands being identified. The NWI maps are a helpful background source for wetland investigations. However, field research by a trained expert is necessary to determine the presence or absence of wetlands. Another source for wetland information is the occurrence of hydric soils - which usually are indicators of wetland conditions.
High Water Table Areas

If development occurs in areas of high water table a public sewage disposal system should be available because where on-lot sewage disposal systems are used, the ground water supply may be contaminated by sewage effluent. When the ground water level is high and near the surface, the soil near the surface is saturated or will readily become saturated with septic tank effluent. If there is not enough room in the soil for septic tank effluent, the effluent must remain near the surface or rise to the surface, endangering public health and giving off foul odors.

These areas where the water table is high perform an important water storage function and should be allowed to continue this function and continue to store uncontaminated water. Foundations constructed in areas of high water table may settle and fail. Stagnant pools may exist during certain periods, creating an unattractive residential environment.

Soils

Historically, the nature and quality of soil has had a very important effect on how land was used, especially in agricultural areas. It is therefore important to review the nature and qualities of Bethel Township's soils, because land use activities are frequently reflections of soil type.

In terms of efficient use of resources, a common-sense goal would be to arrange land uses so that the best soils for agricultural uses (i.e. well-drained, deep, and fertile) are left undisturbed, while residential development would be focused towards soil areas that are less productive or are not easily worked. Construction costs can be minimized if development is steered towards areas that do not have a high water table, are relatively free of shallow bedrock, but have adequate soil for an on-lot sewage disposal system.

Intensive land uses, such as industrial, commercial, or activities that require large parking areas, should also be directed towards soils that can support heavy loads or paved areas.

While virtually any structure can be safely built on almost any soil type (or slope), such developments may require unreasonable amounts of engineering, site preparation, and cost. Therefore, while this analysis will not predict the appropriate location for any land use with one hundred percent certainty, it is a reasonable set of guidelines for future development or areas of constraint.
One of the most useful components of the soil analysis is the list of types of constraints imposed by different soil types. For example, a soil type may be subject to flooding, or be too wet for use for an on-lot sewage disposal system site. Constraints can affect construction, such as the ability of soil to support loads, on its frost action, shrink-swell potential, etc. This information is necessary to identify areas that are not appropriate for extensive development.

**General Soils Characteristics**

For classification purposes, soils are separated into major units (called soil associations), which are then subdivided into individual soil series (*Soil Survey of Lebanon County, Pennsylvania*).

There are four soil associations found in Bethel Township: the Berks-Weikert-Bedington Association, the Laidig-Hazleton-Leck Kill Association, the Bedington-Berks-Holly Association and the Neshaminy-Berks-Holly Association.

The Berks-Weikert-Bedington Association consists of shallow to deep, nearly level to very steep, well-drained soils on uplands. In the Township it is only adjacent to the Swatara and Monroe Creeks and in an area west of Fredericksburg. The soils formed in residuum from acid shale, sandstone and siltstone. The unit is dominantly used for hay and pasture. Other uses are crops, woodland and urban development.

The Laidig-Hazleton-Leck Kill Association consists of deep, nearly level to very steep, well-drained soils on mountains, ridges and summits. This association is located in the northern third of the Township. The soils formed in residuum and colluvium from acid-sandstone and shale. This unit is dominantly used for woodland. Most areas are too stony and steep for cultivation.

The Bedington-Berks-Holly Association consists of deep and moderately deep, nearly level to very steep, well drained and poorly drained to very poorly drained soils on uplands and floodplains. This Association occupies the lower two-thirds of Bethel Township. The soils formed in residuum from acid shale and sandstone, and in alluvium. The unit is dominantly used for crops and hay. Most other areas are used for woodland and urban development.

The Neshaminy-Berks-Holly Association consists of deep and moderately deep, nearly level to very steep, well drained and poorly drained to very poorly drained soils on uplands and floodplains. It is located in the extreme southwestern portion of the Township. The
soils formed in residuum from diabase and other dark basic rocks and highly fractured acid shale and siltstone and in alluvium. The unit is dominantly used for crops, hay, pasture and woodland. Other uses include urban development and rock quarrying.

The Soil Survey provides detailed information for individual mapping units within the general soil association described above.

Agricultural Capability

Agriculture plays an important role in the economy of Bethel Township. It is essential that the prime agricultural land be delineated and, wherever possible, preserved for agricultural use.

The best lands for farming are based on categories defined by the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS). The agricultural capability classification is a grouping of soils that indicates how suitable soils are for most kinds of farming. These groupings are based on limitations of the soils, the risk of damage when used, and the way they respond to treatment. There are seven classes in the capability system, with Class I being the soils that have the fewest limitations restricting their use.

The lands good for rotational farming are deep to moderate deep, well-drained soils. They have a wide range in natural fertility and moderate to high moisture holding capacity. The “good” soils are generally well adapted to intensive agricultural use but moderate natural limitations or risks exist in many cases. When they are farmed, a moderately intensive crop rotation should be used, protected by contour strip cropping on slopes over two percent. Diversion terraces are needed on the longer and steeper slopes. The productivity of the moderately, well-drained soils can be improved by installing surface and subsurface drains.

The areas termed “fair” in agricultural capability consist of gently to moderately sloping soils. The fair soils are deep, moderately deep, shallow, stony and non-stony with a wide range in natural limitations or hazards produced by soil properties, slopes or erosion. Fair soils are rather well adapted to rotational cropland. However, to conserve soil and water, a low intensity rotation protected by contour strips and diversion terraces should be used.
The "poor" soils for farming purposes are found primarily along the steeper slopes adjacent to the stream valleys and drainage channels. The area classified as poor includes deep, moderately deep, shallow, stony and non-stony soils with a wide range in natural fertility and moisture holding capacity. These soils, however, are not suited to cultivation because of very severe natural limitations. The poor soils are best suited for use as hay, pasture, woodland, recreation or scenic areas. The grassland areas should be limed and fertilized adequately. Diversion terraces may be needed to protect the steeper slopes. In these poor soils, small areas of poorly drained soils may be found and also stony soils that are too rocky to cultivate.

**Prime Agricultural Land**

Prime farmland, as defined by the USDA-NRCS, is the land that is best suited for producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and water supply needed to economically produce a sustained high yield of crops when it is treated and managed using acceptable farming methods. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment. According to the NRCS, qualities which characterize prime agricultural soils include high permeability to water and air, few or no rocks, optimum levels of acidity and alkalinity, 0 to 8 percent slopes, and the absence of flooding during the growing season. These soils may now be utilized for crops, pasture, woodland, or land covers other than urban land or water areas.

Table 3-1 lists the soil series identified as Prime Farmland by the USDA that are found in the Township. All of the USDA-classified Prime Farmland Soils are Class I or II soils. In addition to those Prime Farmland Soils, additional soils located in the Township qualify as Prime Agricultural Land (Classes I, II and III) under the PA MPC.

As can be seen from the Agricultural Soils Map, approximately two-thirds of Bethel Township's land area is classified as Class I, II and III soils.
Table 3-1
Prime Farmland Soils (USDA) and Prime Agricultural Land (MPC)

<table>
<thead>
<tr>
<th>Prime Farmland Soils (USDA)</th>
<th>Prime Agricultural Land (MPC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BaA - Bedington shaly silt loam, 0-3 percent slopes</td>
<td>AiB - Abbottstown silt loam, 3-8 percent slopes</td>
</tr>
<tr>
<td>BeB - Bedington shaly silt loam, 3-8 percent slopes</td>
<td>BeC - Bedington shaly silt loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>BnB - Brecknock channery silt loam, 3-8 percent slopes</td>
<td>BkB - Berks shaly loam, 3-8 percent slopes</td>
</tr>
<tr>
<td>BwB - Buchanan gravelly loam, 3-8 percent slopes</td>
<td>BkC - Berks shaly loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>CeB - Chester channery loam, 3-8 percent slopes</td>
<td>BnC - Brecknock channery silt loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>CkA - Clarksburg silt loam, 0-3 percent slopes</td>
<td>CeC - Chester channery loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>CkB - Clarksburg silt loam, 3-8 percent slopes</td>
<td>Ho - Holly silt loam</td>
</tr>
<tr>
<td>CmB - Comly silt loam, 0-3 percent slopes</td>
<td>KnB - Klinesville shaly loam, 3-8 percent slopes</td>
</tr>
<tr>
<td>DfA - Duffield silt loam, 0-3 percent slopes</td>
<td>LaC - Laidig channery loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>DfB - Duffield silt loam, 3-8 percent slopes</td>
<td>LeC - Leck Kill shaly silt loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>LaB - Laidig channery loam, 3-8 percent slopes</td>
<td>LhB - Lehigh silt loam, 2-10 percent slopes</td>
</tr>
<tr>
<td>LeB - Leck Kill shaly silt loam, 3-8 percent slopes</td>
<td>NeC - Neshaminy gravelly silt loam, 8-15 percent slopes</td>
</tr>
<tr>
<td>MoB - Mount Lucas silt loam, 3-8 percent slopes</td>
<td>WbB - Watchung extremely stony silt loam, 0-8 percent slopes</td>
</tr>
<tr>
<td>MuB - Murrill gravelly silt loam, 3-8 percent slopes</td>
<td>WeB - Weikert silt loam, 3-8 percent slopes</td>
</tr>
<tr>
<td>NeB - Neshaminy gravelly silt loam, 3-8 percent slopes</td>
<td></td>
</tr>
<tr>
<td>No - Nolin Variant silt loam</td>
<td></td>
</tr>
<tr>
<td>PpB - Penn shaly silt loam, 3-8 percent slopes</td>
<td>Ph - Philo silt loam</td>
</tr>
<tr>
<td>Po - Pope loam</td>
<td></td>
</tr>
</tbody>
</table>

Woodland

Wooded areas are scenic amenities and habitats for wildlife. They also provide visual relief from developed land areas and fields. Wooded areas increase capacity for absorption of storm run-off, diminishing flood potentials and decreasing erosion. Wooded areas are especially valuable when on steep slopes because erosion and
sedimentation are diminished by absorption of run-off and binding of soil. Maintenance of wooded areas on steep slopes in turn is of even more importance when the steep slopes are found bordering streams that could be greatly disturbed through sedimentation and experience greater flood peaks if they are swelled by increased surface run-off. When eroded soil is washed off the land and into the streams, it fills the channels, cuts the banks, smothers animal life, and muddies the water. Wooded areas also have a recreational potential, whether for hunting, fishing, hiking or similar activities. When areas are left wooded the quantity and quality of ground water can be better maintained than if the woods are removed because the natural cover allows for infiltration of rainfall into the ground water system.

As can be seen on the Land Use/Land Cover Map, a significant portion of the total land area of Bethel Township is wooded. The largest contiguous tracts of woodland are located on or along the slopes of Blue and Little Mountains in the northern portion of the Township. Many of the numerous stream valleys in the Township are also wooded. The Township's woodlands also encompass State Game Lands and the Swatara Gap State Park, and are the location for permanent as well as seasonal dwellings, and hunting/outdoor recreational uses.

**Vegetation and Wildlife**

Vegetation in the Township consists primarily of those characteristics of rural farmland environments. The majority of the Township is rural and farming is a very important part of its heritage. The extent of agricultural areas in the Township can be seen on the Land Use/Land Cover Map.

Man has cleared a majority of the original woodland tracts in non-mountainous portions of Bethel Township. Woodlands remaining in the Township cover the steeper sloped areas and are located along the major drainageways. These areas have historically been avoided by development, largely because they were not suitable for farming. Efforts should be made to limit any future development that would severely impact the wooded areas of the Township.

Wildlife in Bethel Township consists primarily of mammal and bird species characteristics of rural farmland environments. Mourning dove is plentiful, as are fox, rabbit, squirrel and whitetail deer.
Ecological Resources

In the past, attitudes toward preservation, protection and conservation of our ecological resources have not been a driving issue in comprehensive planning. As a result of education, and in response to the growing perception of the negative impacts of certain land use forms and practices, the preservation of wildlife and wild habitats has become a priority conservation objective.

The Department of Conservation and Natural Resources maintains a data system known as the Pennsylvania Natural Diversity Inventory (PNDI), which identifies plant and animal species that are either endangered or threatened.

Archaeological Resources

The Pennsylvania Historical and Museum Commission (PHMC) has established an inventory of archaeologically sensitive areas. Due to the confidential nature of this inventory, the PHMC is unable to produce township-wide sensitivity maps of known archaeological sites. However, substantial protection of these resources is provided within the subdivision and land development process. Applicants are typically required to obtain approval by the Township and the Pennsylvania Department of Environmental Protection (DEP) for a "Planning Module for Land Development". These Planning Modules generally require review by the PHMC to determine if any archaeological or historical resources are present in or near the project area. Known sites are required to do additional archaeological or historical studies.

It is the general consensus that the Township's pattern of historic growth has not substantially impacted areas of high probability for archaeological resources. However, if in the future the Township determines that significant archaeological resources remain unprotected from development, additional requirements could be established within the Zoning Ordinance or through the adoption of a special protection ordinance.
Development Constraints

Several major constraints to development can be derived from the analysis of the Township’s soils and other physical characteristics. Constraint categories include the following:

- **Floodplains** – as identified by the Federal Emergency Management Agency (FEMA)

- **Hydric soils or soils with possible hydric inclusions** - indicators of potential wetlands

- **Prime agricultural soils** - as identified by the Soil Conservation Service and defined by the Pennsylvania Municipalities Planning Code

- **Slopes 15 percent or greater** - limits the ability to develop some uses

- **Slopes 8 to 25 percent** - this category specifically identifies several soil types which are located on mountains and the side slopes of ridges, and due to their rockiness and slope are severely limited for uses other than woodland, scattered pasture land and very limited low density development.

- **Suitability for on-site sewage disposal** – Many of the soils mapped in Bethel Township are classified as unsuitable or potentially unsuitable for on-lot sewage disposal. Specific sites require on-site investigations to determine their suitability for the operation of an on-lot sewage disposal system. Areas classified as having moderate limitations are so classified because of moderate slope and/or shallow depth of bedrock. Areas classified as having severe limitations are so classified because of moderately slow or slow permeability, the presence of high water table or seasonal high water table, the presence of a flooding hazard, steep slope, stoniness or shallow depth to bedrock.
Demographic Analysis

In order to prepare and follow guidelines for future land use, as well as goals involving the physical, economic, and social environment of the Township, it is crucial to have an understanding of Bethel Township's population as well as its population characteristics. For example, future residential, industrial, commercial, recreational, and other developments require different amounts and types of land. Each of these developments is related to the level and type of population it must serve.

The most important Township resource is its people. The population of the Township is growing, but the particular characteristics of the population may be changing also. The character of the population should be evaluated and reflected in the Township's Comprehensive Plan.

This section includes historical data as well as current information. This information will be used in forming and evaluating strategies to implement the Township's goals and objectives, and will be used to more efficiently allocate the resources identified in the Background Analysis. Additionally, this information can be used to provide objective support for land use goals, and ensure that policies are rationally related to needs.

Population Characteristics

Demographic profiles help us determine the character and needs of the community. Several elements that are useful in assessing the Township's future include its historic growth, housing characteristics, incomes, educational attainment, labor force, and population growth. Aided by these elements we can provide useful strategies for the proposed goals involving the physical, economic, and social environment of the community.

Population Trends

According to the U.S. Bureau of Census data, the Township experienced double-digit population increases over four of the five decades between 1940 and 1990. However, the recently released 2000 U.S. Census data shows a considerably lower growth rate (4.2%) in the last ten years. According to the results of the Census, the 1990 Township population of 4,343 only increased by 183 people in the subsequent ten-year period.
Table 3-2
Historic Population, 1940 – 2000
Bethel Township

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Number Change</th>
<th>Percent Change</th>
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</thead>
<tbody>
<tr>
<td>1940</td>
<td>2,004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>2,302</td>
<td>298</td>
<td>14.9</td>
</tr>
<tr>
<td>1960</td>
<td>2,433</td>
<td>131</td>
<td>5.7</td>
</tr>
<tr>
<td>1970</td>
<td>2,804</td>
<td>371</td>
<td>15.2</td>
</tr>
<tr>
<td>1980</td>
<td>3,817</td>
<td>1,013</td>
<td>36.1</td>
</tr>
<tr>
<td>1990</td>
<td>4,343</td>
<td>526</td>
<td>13.8</td>
</tr>
<tr>
<td>2000</td>
<td>4,526</td>
<td>183</td>
<td>4.2</td>
</tr>
</tbody>
</table>

Source: U.S. Census of Population

Age Groupings

A review of the age characteristics of the Township provides insight into which age groupings will be dominant in the future. As can be seen when the 1990 and 2000 percentages of Township population are compared, the under-20 age groups have remained fairly constant. The age group with the largest decrease (both in percentage and actual numbers) was the 25-34 year old group. This age group experienced a nearly three percent reduction over the 10-year period – and a net decrease of nearly 100 people. This decrease in 1990 was not followed by a corresponding increase in the 35-44 year old age group by the Year 2000.

The Township percentage population over 65 also continues to increase – from 427 (9.9 percent) in 1990 to 497 (11.0 percent) in the Year 2000. However, due primarily to the larger Township population under 25, the over-65 population in the Township is still at a lower percentage than either the County or the State. The number of males versus females in the Township was higher. Both the State and County breakdowns showed a higher percentage of females.
Table 3-3
Sex and Age, 2000
Bethel Township

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>1990 CENSUS</th>
<th></th>
<th>2000 CENSUS</th>
<th></th>
<th>2000 CENSUS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
<td>PERCENT</td>
</tr>
<tr>
<td>TOTAL POPULATION</td>
<td>4,343</td>
<td>100.0</td>
<td>4,526</td>
<td>100.0</td>
<td>120,327</td>
<td>100.0</td>
</tr>
<tr>
<td>SEX AND AGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2,205</td>
<td>50.8</td>
<td>2,302</td>
<td>50.9</td>
<td>55,610</td>
<td>48.7</td>
</tr>
<tr>
<td>Female</td>
<td>2,138</td>
<td>49.2</td>
<td>2,224</td>
<td>49.1</td>
<td>61,717</td>
<td>51.3</td>
</tr>
<tr>
<td>Under 5 years</td>
<td>333</td>
<td>7.7</td>
<td>328</td>
<td>7.2</td>
<td>7,360</td>
<td>6.1</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>340</td>
<td>7.8</td>
<td>359</td>
<td>7.9</td>
<td>7,949</td>
<td>6.6</td>
</tr>
<tr>
<td>10 to 14 years</td>
<td>347</td>
<td>8.0</td>
<td>355</td>
<td>7.8</td>
<td>8,308</td>
<td>6.9</td>
</tr>
<tr>
<td>15 to 19 years</td>
<td>343</td>
<td>7.9</td>
<td>342</td>
<td>7.6</td>
<td>8,076</td>
<td>6.7</td>
</tr>
<tr>
<td>20 to 24 years</td>
<td>323</td>
<td>7.4</td>
<td>239</td>
<td>5.3</td>
<td>6,694</td>
<td>5.6</td>
</tr>
<tr>
<td>25 to 34 years</td>
<td>700</td>
<td>16.1</td>
<td>606</td>
<td>13.4</td>
<td>14,929</td>
<td>12.4</td>
</tr>
<tr>
<td>35 to 44 years</td>
<td>651</td>
<td>15.0</td>
<td>721</td>
<td>15.9</td>
<td>18,772</td>
<td>15.6</td>
</tr>
<tr>
<td>45 to 54 years</td>
<td>469</td>
<td>10.8</td>
<td>628</td>
<td>13.9</td>
<td>16,906</td>
<td>14.1</td>
</tr>
<tr>
<td>55 to 59 years</td>
<td>195</td>
<td>4.5</td>
<td>247</td>
<td>5.5</td>
<td>6,478</td>
<td>5.4</td>
</tr>
<tr>
<td>60 to 64 years</td>
<td>215</td>
<td>5.0</td>
<td>204</td>
<td>4.5</td>
<td>5,159</td>
<td>4.3</td>
</tr>
<tr>
<td>65 to 74 years</td>
<td>250</td>
<td>5.8</td>
<td>309</td>
<td>6.8</td>
<td>9,960</td>
<td>8.3</td>
</tr>
<tr>
<td>75 to 84 years</td>
<td>153</td>
<td>3.5</td>
<td>145</td>
<td>3.2</td>
<td>7,044</td>
<td>5.9</td>
</tr>
<tr>
<td>85 years and over</td>
<td>24</td>
<td>0.6</td>
<td>43</td>
<td>1.0</td>
<td>2,692</td>
<td>2.2</td>
</tr>
<tr>
<td>Median age (years)</td>
<td></td>
<td>35.5</td>
<td></td>
<td>38.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 years and over</td>
<td>3,097</td>
<td>71.3</td>
<td>3,265</td>
<td>72.1</td>
<td>91,811</td>
<td>76.3</td>
</tr>
<tr>
<td>Male</td>
<td>1,528</td>
<td>35.2</td>
<td>1,653</td>
<td>36.5</td>
<td>43,927</td>
<td>36.5</td>
</tr>
<tr>
<td>Female</td>
<td>1,569</td>
<td>36.1</td>
<td>1,612</td>
<td>35.6</td>
<td>47,884</td>
<td>39.8</td>
</tr>
<tr>
<td>21 years and over</td>
<td>2,913</td>
<td>67.1</td>
<td>3,093</td>
<td>68.3</td>
<td>87,165</td>
<td>72.4</td>
</tr>
<tr>
<td>62 years and over</td>
<td>539</td>
<td>12.4</td>
<td>619</td>
<td>13.7</td>
<td>22,698</td>
<td>18.9</td>
</tr>
<tr>
<td>65 years and over</td>
<td>427</td>
<td>9.8</td>
<td>497</td>
<td>11.0</td>
<td>19,696</td>
<td>16.4</td>
</tr>
<tr>
<td>Male</td>
<td>198</td>
<td>4.6</td>
<td>228</td>
<td>5.0</td>
<td>8,027</td>
<td>6.7</td>
</tr>
<tr>
<td>Female</td>
<td>229</td>
<td>5.3</td>
<td>269</td>
<td>5.9</td>
<td>11,669</td>
<td>9.7</td>
</tr>
</tbody>
</table>
Race Characteristics

The next table features the race characteristics in the Township from the 2000 Census. Bethel Township contains an extremely low minority population as compared to the State and County.

Table 3-4
Race Characteristics, 2000
Bethel Township

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>BETHEL TOWNSHIP 1990 CENSUS</th>
<th>BETHEL TOWNSHIP 2000 CENSUS</th>
<th>BETHEL TOWNSHIP 2000 CENSUS</th>
<th>LEBANON COUNTY 2000 CENSUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
<td>PERCENT</td>
</tr>
<tr>
<td>RACE*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One race</td>
<td>**</td>
<td></td>
<td>4,505</td>
<td>99.5</td>
</tr>
<tr>
<td>White</td>
<td>4,289</td>
<td>98.8</td>
<td>4,442</td>
<td>98.1</td>
</tr>
<tr>
<td>Black or African American</td>
<td>15</td>
<td>0.3</td>
<td>12</td>
<td>0.3</td>
</tr>
<tr>
<td>American Indian and Alaska Native</td>
<td>3</td>
<td>0.1</td>
<td>5</td>
<td>0.1</td>
</tr>
<tr>
<td>Asian</td>
<td>14</td>
<td>0.3</td>
<td>11</td>
<td>0.2</td>
</tr>
<tr>
<td>Hawaiian/Pacific Islander</td>
<td>0</td>
<td>-</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Other race</td>
<td>22</td>
<td>0.5</td>
<td>35</td>
<td>0.8</td>
</tr>
<tr>
<td>Two or more races</td>
<td>**</td>
<td></td>
<td>21</td>
<td>0.5</td>
</tr>
<tr>
<td>HISPANIC OR LATINO*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino (any race)</td>
<td>42</td>
<td>1.0</td>
<td>70</td>
<td>1.5</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>4,301</td>
<td>99.0</td>
<td>4,456</td>
<td>98.5</td>
</tr>
</tbody>
</table>
### Table 3-5
**Household Type and Relationship, 2000**
**Bethel Township**

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>1990 CENSUS</th>
<th>2000 CENSUS</th>
<th>LEBANON COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
</tr>
<tr>
<td>TOTAL POPULATION</td>
<td>4,343</td>
<td>100.0</td>
<td>4,526</td>
</tr>
<tr>
<td>RELATIONSHIP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In households</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Householder</td>
<td>1,433</td>
<td>33.0</td>
<td>1,608</td>
</tr>
<tr>
<td>Spouse</td>
<td>1,050</td>
<td>24.2</td>
<td>1,065</td>
</tr>
<tr>
<td>Child</td>
<td>1,584</td>
<td>36.0</td>
<td>1,528</td>
</tr>
<tr>
<td>Own child under 18 years</td>
<td>1,164</td>
<td>26.8</td>
<td>1,168</td>
</tr>
<tr>
<td>Other relatives</td>
<td>76</td>
<td>1.7</td>
<td>152</td>
</tr>
<tr>
<td>Under 18 years</td>
<td>56</td>
<td>1.6</td>
<td>66</td>
</tr>
<tr>
<td>Nonrelatives</td>
<td>139</td>
<td>3.2</td>
<td>170</td>
</tr>
<tr>
<td>Unmarried partner</td>
<td>60</td>
<td>1.4</td>
<td>93</td>
</tr>
<tr>
<td>In group quarters</td>
<td>21</td>
<td>0.5</td>
<td>3</td>
</tr>
<tr>
<td>Institutionalized population</td>
<td>12</td>
<td>0.3</td>
<td>-</td>
</tr>
<tr>
<td>Noninstitutionalized population</td>
<td>9</td>
<td>0.2</td>
<td>3</td>
</tr>
<tr>
<td>HOUSEHOLD BY TYPE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total households</td>
<td>1,493</td>
<td>100.0</td>
<td>1,608</td>
</tr>
<tr>
<td>Family households (families)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With own children under 18 years</td>
<td>628</td>
<td>42.1</td>
<td>563</td>
</tr>
<tr>
<td>Married couple family</td>
<td>1,050</td>
<td>70.3</td>
<td>1,065</td>
</tr>
<tr>
<td>With own children under 18 years</td>
<td>523</td>
<td>35.0</td>
<td>467</td>
</tr>
<tr>
<td>Female householder, no husband present</td>
<td>112</td>
<td>7.5</td>
<td>118</td>
</tr>
<tr>
<td>With own children under 18 years</td>
<td>67</td>
<td>4.5</td>
<td>61</td>
</tr>
<tr>
<td>Nonfamily households</td>
<td>273</td>
<td>18.3</td>
<td>356</td>
</tr>
<tr>
<td>Householder living alone</td>
<td>213</td>
<td>14.3</td>
<td>286</td>
</tr>
<tr>
<td>Householder 65 years and over</td>
<td>82</td>
<td>5.5</td>
<td>114</td>
</tr>
</tbody>
</table>
Income and Poverty Levels

One must also consider the economy of the area when trying to plan for its future. Median household income levels in Bethel Township in 1999 were comparable to those of the County and the rest of the State. However, the Township’s per capita income was considerably lower than that of either the County or the State, as were median family incomes. The Township’s 1999 poverty rate for families was greater than that of Lebanon County but less than the State overall.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>1990 CENSUS</th>
<th>2000 CENSUS</th>
<th>2000 CENSUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
</tr>
<tr>
<td>Households with individuals under 18 years</td>
<td>632</td>
<td>42.3</td>
<td>610</td>
</tr>
<tr>
<td>Households with individuals 65 years and over</td>
<td>303</td>
<td>20.3</td>
<td>355</td>
</tr>
<tr>
<td>Average household size</td>
<td>2.89</td>
<td>2.81</td>
<td>2.49</td>
</tr>
<tr>
<td>Average family size</td>
<td>3.20</td>
<td>3.19</td>
<td>2.98</td>
</tr>
</tbody>
</table>

Table 3-6
Income and Poverty Levels, 1999
Bethel Township

<table>
<thead>
<tr>
<th></th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999 Per Capita Income</td>
<td>$17,093</td>
<td>$19,773</td>
<td>$20,880</td>
</tr>
<tr>
<td>1999 Median Household Income</td>
<td>$41,790</td>
<td>$40,838</td>
<td>$40,106</td>
</tr>
<tr>
<td>1999 Median Family Income</td>
<td>$47,415</td>
<td>$48,906</td>
<td>$49,184</td>
</tr>
<tr>
<td>Poverty Rate, 1999</td>
<td>6.1 %</td>
<td>5.4 %</td>
<td>7.8 %</td>
</tr>
</tbody>
</table>

Population Projections

Population projections are important to the future allocation of land use and the delivery of public services. The projections become a building block that will be used repeatedly to forecast future spatial and service needs. Consequently, great care must be exercised to assure that these figures represent the “best guess” as to how the Township will grow.

It is important to understand that no population projection can accurately forecast all of the factors that might cause a particular rate of growth. Instead, historical trends are analyzed and compared with perceived current trends to see how accurately they predict recent data; then, the most accurate method is used to predict future conditions.

Three different population projection techniques are applied to the Township’s historic trends; each of these will be discussed, and one will be selected for use.

Method 1

This method relies upon an arithmetic extrapolation projection technique. It forecasts growth at the same numeric levels as the past. Specifically, it was calculated that an average of 420 new residents have been added to Bethel Township in each decade, since 1950. This same net increase is then added to the 2000 figure, yielding the following projections.

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,526</td>
<td>4,946</td>
<td>5,366</td>
</tr>
</tbody>
</table>

Method 2

This method uses a geometric extrapolation projection technique. It forecasts a growth rate based upon historical population trends. By analyzing the percentage increases recorded in the Township since 1950, it was determined that the Township grows by an average of 15.0% during each decade. This technique assumes that the Township will grow at an average rate similar to that experienced since 1950. By applying this growth rate to the 2000 Census figures, the following projections result:
Method 3

This method forecasts a growth rate based upon historical percentage increases between decades since 1950. Except for the decade of 1970 – 1980, when public sewers were constructed in the Township, thus spurring an abnormally high rate of growth, percentage increases of population have been cyclical in nature (i.e., a 13 to 15 percent growth rate in one decade is followed by only a 4 to 6 percent growth rate in the subsequent decade). By applying this cyclical growth rate to the 2000 Census figures, the following projections result:

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method 3</td>
<td>4,526</td>
<td>5,164</td>
<td>5,407</td>
</tr>
</tbody>
</table>

Method 4

This technique assumes that the Township will grow at an average rate similar to that experienced since 1980. By analyzing the percentage increases recorded in the Township since 1980, it was determined that the Township grows by an average of 9.0% during each decade. By applying this growth rate to the 2000 Census figures, the following projections result:

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method 4</td>
<td>4,526</td>
<td>4,933</td>
<td>5,377</td>
</tr>
</tbody>
</table>
The four projections are summarized in the following table.

### Table 3-7
Summary of Population Projections
Bethel Township

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Method #1</td>
<td>4,526</td>
<td>4,946</td>
<td>420</td>
<td>9.3</td>
<td>5,366</td>
<td>420</td>
<td>8.5</td>
<td>840</td>
<td>18.6</td>
</tr>
<tr>
<td>Method #2</td>
<td>4,526</td>
<td>5,205</td>
<td>679</td>
<td>15.0</td>
<td>5,986</td>
<td>781</td>
<td>15.0</td>
<td>1,460</td>
<td>32.3</td>
</tr>
<tr>
<td>Method #3</td>
<td>4,526</td>
<td>5,164</td>
<td>638</td>
<td>14.1</td>
<td>5,407</td>
<td>243</td>
<td>4.7</td>
<td>881</td>
<td>19.5</td>
</tr>
<tr>
<td>Method #4</td>
<td>4,526</td>
<td>4,933</td>
<td>407</td>
<td>9.0</td>
<td>5,377</td>
<td>444</td>
<td>9.0</td>
<td>851</td>
<td>18.8</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau; Consultant's Calculations
Housing

One of the most important assets of the community is the quality and condition of the Township's residential neighborhoods and housing stock. Both personal and public benefits are derived from a well-maintained and varied housing stock. In addition to the personal economic benefits derived from appreciating property values, the individual benefits from the opportunity to choose from a variety of different housing types, styles, prices, and environmental settings. The public benefits economically with the assurance of a sound residential tax base that will continue to appreciate as the housing stock is maintained and grows. Studying existing housing conditions and planning future housing initiatives is important for these reasons and in assuring the Township's residential living environment is both safe and healthful.

Examining the housing values and renter's monthly rent in the community allows us to determine what the market will bear for the monthly rent and housing values. As can be seen from the table, in 2000, Bethel Township had a higher Median Value for Owner Occupied Units than both Lebanon County and the State overall. The Median Gross Rent for renter occupied units was also much higher than the County - but was comparable to the value for the State.

Table 3-8
Housing Occupancy, 2000
Bethel Township

<table>
<thead>
<tr>
<th>Subject</th>
<th>1990 Census</th>
<th>2000 Census</th>
<th>2000 Census</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Housing Occupancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total housing units</td>
<td>1,575</td>
<td>100.0</td>
<td>1,710</td>
</tr>
<tr>
<td>Occupied housing units</td>
<td>1,493</td>
<td>94.8</td>
<td>1,608</td>
</tr>
<tr>
<td>Vacant housing units</td>
<td>82</td>
<td>5.2</td>
<td>102</td>
</tr>
<tr>
<td>For seasonal, recreational or occasional use</td>
<td>39</td>
<td>2.5</td>
<td>35</td>
</tr>
<tr>
<td>Homeowner vacancy rate (percent)</td>
<td>*</td>
<td>1.0</td>
<td>1.7</td>
</tr>
<tr>
<td>Rental vacancy rate (percent)</td>
<td>*</td>
<td>5.4</td>
<td>6.5</td>
</tr>
<tr>
<td>SUBJECT</td>
<td>BETHEL TOWNSHIP 1990 CENSUS</td>
<td>BETHEL TOWNSHIP 2000 CENSUS</td>
<td>BETHEL TOWNSHIP 2000 CENSUS</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>NUMBER</td>
<td>PERCENT</td>
<td>NUMBER</td>
</tr>
<tr>
<td>Occupied housing units</td>
<td>1,493</td>
<td>100.0</td>
<td>1,608</td>
</tr>
<tr>
<td>Owner-occupied housing units</td>
<td>1,225</td>
<td>82.0</td>
<td>1,346</td>
</tr>
<tr>
<td>Renter-occupied housing units</td>
<td>268</td>
<td>18.0</td>
<td>262</td>
</tr>
<tr>
<td>Average household size of owner-occupied units</td>
<td>2.90</td>
<td></td>
<td>2.82</td>
</tr>
<tr>
<td>Average household size of renter-occupied units</td>
<td>2.86</td>
<td></td>
<td>2.76</td>
</tr>
</tbody>
</table>

SOURCE: U.S. Census Bureau, Census 2000

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>BETHEL TOWNSHIP</th>
<th>LEBANON COUNTY</th>
<th>PENNSYLVANIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000 Median Value of Owner Occupied Housing Units</td>
<td>$110,400</td>
<td>$100,700</td>
<td>$97,000</td>
</tr>
<tr>
<td>2000 Median Contract Rent of Renter Occupied Units</td>
<td>$522</td>
<td>$470</td>
<td>$531</td>
</tr>
<tr>
<td>Percentage of Owner Occupied Housing Units</td>
<td>83.7 %</td>
<td>72.7 %</td>
<td>71.3 %</td>
</tr>
<tr>
<td>Percentage of Renter Occupied Housing Units</td>
<td>16.3 %</td>
<td>27.3 %</td>
<td>28.7 %</td>
</tr>
</tbody>
</table>


There are several benefits in looking at the quality and condition of the residential neighborhoods and housing stock. Not only does a nice home provide personal satisfaction to the homeowner but to the community also. Looking at all the different housing types, styles, prices, and environmental settings allows the community to offer...
a wide spectrum of housing possibilities. Table 3-10 provides a breakdown of the 2000 housing stock by type and number of units in the structure.

The Township had a much higher percentage of one-unit detached and mobile homes than did either the County or the State. Conversely, the Township had a much lower percentage of structures 1 unit attached structures and with 5 or more units.

Table 3-10
Structural and Vacancy Characteristics, 2000
Bethel Township

<table>
<thead>
<tr>
<th></th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Total Housing Units</td>
<td>1,710</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1 Unit Detached</td>
<td>1,241</td>
<td>72.6</td>
<td>57.2</td>
</tr>
<tr>
<td>1 Unit Attached</td>
<td>42</td>
<td>2.5</td>
<td>18.5</td>
</tr>
<tr>
<td>2 - 4 Units in Structure</td>
<td>126</td>
<td>7.3</td>
<td>10.6</td>
</tr>
<tr>
<td>5 - 9 Units in Structure</td>
<td>18</td>
<td>1.1</td>
<td>3.4</td>
</tr>
<tr>
<td>10 or More Units in Structure</td>
<td>7</td>
<td>0.4</td>
<td>4.2</td>
</tr>
<tr>
<td>Mobile Home/Other</td>
<td>276</td>
<td>16.1</td>
<td>6.0</td>
</tr>
<tr>
<td>% Owner Occupied</td>
<td>78.7</td>
<td></td>
<td>68.6</td>
</tr>
<tr>
<td>% Renter Occupied</td>
<td>15.3</td>
<td></td>
<td>25.7</td>
</tr>
<tr>
<td>% Vacant</td>
<td>6.0</td>
<td></td>
<td>5.6</td>
</tr>
</tbody>
</table>

Table 3-11
Year Structure Built, 2000
Bethel Township

<table>
<thead>
<tr>
<th>Year Structure Built</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Total Units</td>
<td>1,710</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1990 - March 2000</td>
<td>178</td>
<td>10.4</td>
<td>12.6</td>
</tr>
<tr>
<td>1980 - 1989</td>
<td>246</td>
<td>14.4</td>
<td>11.4</td>
</tr>
<tr>
<td>1970 - 1979</td>
<td>452</td>
<td>26.4</td>
<td>15.1</td>
</tr>
<tr>
<td>1969 or earlier</td>
<td>8.34</td>
<td>48.8</td>
<td>60.8</td>
</tr>
</tbody>
</table>


As can be seen from Table 3-11, roughly one-half of the housing stock in the Township is over 30 years old. This percentage is less than that of the County or the State as a whole. It can also be seen that over one-fourth of all housing units in existence in the Township in 2000 were built in the decade of the 1970s.

Table 3-12
Residence In 1995
(Persons 5 Years and Older)
Bethel Township

<table>
<thead>
<tr>
<th>Lived in Same House</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Total Persons</td>
<td>4,191</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Lived in Same House</td>
<td>3,047</td>
<td>72.7</td>
<td>62.6</td>
</tr>
</tbody>
</table>

Lived in Different House

<table>
<thead>
<tr>
<th>Lived in Lebanon County</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>In Lebanon County</td>
<td>889</td>
<td>21.2</td>
<td>23.7</td>
</tr>
<tr>
<td>Elsewhere in PA</td>
<td>176</td>
<td>4.2</td>
<td>8.7</td>
</tr>
<tr>
<td>Another State</td>
<td>79</td>
<td>1.9</td>
<td>4.0</td>
</tr>
<tr>
<td>Lived Elsewhere</td>
<td>0</td>
<td>0.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Table 3-12 emphasizes the fact that the resident population of the Township is fairly stable, with nearly three-fourths of the population residing in the same house for the past five years - 10 percent higher than the countywide figure.

Future Housing Needs

As the population of Bethel Township increases, additional housing will be needed. The type of housing that may be built depends greatly on the values and desires of the population. While the number of additional dwellings that may be needed can be estimated based on a projection of overall Township population, the types of dwelling units that may be constructed cannot be estimated.

The 2000 Census data released to date includes statistics on the total number of persons residing in the Township as well as the average household and family sizes. The average household size in 2000 was 2.81; the average family size was 3.19.

The four population projections prepared previously can be used to estimate the number of new housing units needed over the next 20 years.

A population increase of 1,460 was projected using Method 2. If the Year 2000 average household size of 2.81 is used and a 3 percent vacancy rate is assumed, 535 additional dwelling units will be required to accommodate this population increase. If the lower population projection (Method 12) is used, only 308 additional housing units will be required through the Year 2020.

What is important from the perspective of the Township is to allow for adequate developable land to construct additional housing units, it is equally important that a wide range of opportunities for all types and costs of housing also be provided - both for existing and future Township residents. This can best be accomplished by providing for various types and densities of housing through the Township Zoning Ordinance, as well as providing for innovative approaches to residential development - such as clustering and conservation subdivision designs - in the Township Subdivision and Land Development Ordinance.
Educational Attainment

In 2000, the percentage of Bethel Township residents who were high school graduates and/or college graduates was lower than that of the County or State.

<table>
<thead>
<tr>
<th></th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Graduate</td>
<td>74.3 %</td>
<td>78.5 %</td>
<td>81.9 %</td>
</tr>
<tr>
<td>College Graduate</td>
<td>8.7 %</td>
<td>15.4 %</td>
<td>22.4 %</td>
</tr>
</tbody>
</table>

1 Note: Percentages reflect persons 25 years and older.

Employment and Occupation Analysis

An analysis of the number of Township residents, who are employed, along with the types of occupations in which they are employed, provides additional information for planning purposes.

Bethel Township had a much larger percentage of employed persons who were self-employed or worked as unpaid family workers in 1999. This is confirmed by the higher percentage of employed persons identified in the agricultural industry.

The industry in which a person was employed in 1999 reflects the Township's dominant agricultural base. Other major difference between the Township's employment industries from those of the County and State can be seen in the construction and service industry statistics.
### Table 3-14
Percentage of Employed Persons 16 Years and Over
By Class of Worker, 2000
Bethel Township

<table>
<thead>
<tr>
<th>Class of Worker</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Industry</td>
<td>76.1 %</td>
<td>81.5 %</td>
<td>82.4 %</td>
</tr>
<tr>
<td>Government</td>
<td>10.1 %</td>
<td>11.0 %</td>
<td>11.3 %</td>
</tr>
<tr>
<td>Self Employed</td>
<td>12.9 %</td>
<td>6.9 %</td>
<td>6.0 %</td>
</tr>
<tr>
<td>Unpaid Family Workers</td>
<td>0.9 %</td>
<td>0.5 %</td>
<td>0.3 %</td>
</tr>
</tbody>
</table>


### Table 3-15
Employed Persons 16 Years and Over
By Type of Industry, 2000
Bethel Township

<table>
<thead>
<tr>
<th>Industry Type</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, mining</td>
<td>9.2 %</td>
<td>2.8 %</td>
<td>1.3 %</td>
</tr>
<tr>
<td>Construction</td>
<td>8.5 %</td>
<td>6.5 %</td>
<td>6.0 %</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>20.4 %</td>
<td>21.9 %</td>
<td>16.0 %</td>
</tr>
<tr>
<td>Transportation, information, communications</td>
<td>7.4 %</td>
<td>6.3 %</td>
<td>8.0 %</td>
</tr>
<tr>
<td>Retail and wholesale trade</td>
<td>16.2 %</td>
<td>16.2 %</td>
<td>15.7 %</td>
</tr>
<tr>
<td>Finance, etc.</td>
<td>3.1 %</td>
<td>3.8 %</td>
<td>6.6 %</td>
</tr>
<tr>
<td>Services</td>
<td>31.9 %</td>
<td>38.7 %</td>
<td>42.2 %</td>
</tr>
<tr>
<td>Public administration</td>
<td>3.3 %</td>
<td>3.8 %</td>
<td>4.2 %</td>
</tr>
</tbody>
</table>

A resident's place of work tells a lot about the character of the municipality, whether it's economically self-sufficient in terms of commercial/industrial tax base, or merely a "bedroom" community. (As of the writing of this report, the 2000 Census data on Place of Work was not yet available).

**Table 3-16**
Place of Work in 1990
Bethel Township

<table>
<thead>
<tr>
<th>WORKED IN PENNSYLVANIA</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Worked in County of Residence</td>
<td>2,348</td>
<td>99.5%</td>
<td>99.5%</td>
</tr>
<tr>
<td>- Worked in Home Municipality</td>
<td>1,748</td>
<td>74.1%</td>
<td>68.1%</td>
</tr>
<tr>
<td>- Worked outside of Home Municipality</td>
<td>478</td>
<td>27.3%</td>
<td>31.4%</td>
</tr>
<tr>
<td>- Worked elsewhere in Pennsylvania</td>
<td>1,270</td>
<td>72.7%</td>
<td>68.6%</td>
</tr>
<tr>
<td>WORKED OUTSIDE OF PA</td>
<td>600</td>
<td>25.4%</td>
<td>31.3%</td>
</tr>
</tbody>
</table>


As can be seen in Table 3-17, approximately three-fourth of those who were employed drove alone in a car or other motor vehicle. Approximately 12% car-pooled. Six percent worked at home and only a small number walked or used some other means to get to work.
### Table 3-17
Means of Transportation to Work
Workers 16 Years and Over in 2000
Bethel Township

<table>
<thead>
<tr>
<th>Means of Transportation to Work</th>
<th>Bethel Township</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Car, Truck or Van</td>
<td>1,750</td>
</tr>
<tr>
<td>Drove Alone</td>
<td>1,465</td>
</tr>
<tr>
<td>Carpoled</td>
<td>285</td>
</tr>
<tr>
<td>Public Transportation</td>
<td>19</td>
</tr>
<tr>
<td>Walked</td>
<td>43</td>
</tr>
<tr>
<td>Other Means</td>
<td>22</td>
</tr>
<tr>
<td>Worked at Home</td>
<td>138</td>
</tr>
</tbody>
</table>


### Table 3-18
Travel Time to Work
Workers 16 Years and Over Who Did Not Work at Home
Bethel Township

<table>
<thead>
<tr>
<th>Mean Travel Time (Minutes)</th>
<th>Bethel Township</th>
<th>Lebanon County</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24.2</td>
<td>21.8</td>
<td>25.2</td>
</tr>
</tbody>
</table>

**Transportation Facilities**

Over its history, Bethel Township and nearby areas have been served by many forms of transportation from horse-drawn buggies and wagons to automobiles. In time, as newer and more efficient forms of transportation became available, older modes and facilities fell into disuse or were abandoned. Today, the family automobile is the primary form of transportation for the movement of goods and people over an extensive network of State and Township roads and highways. Trucks move freight and mail. While the majority of the Township roads have a paved surface material, several of the Township roads remain gravel.

The transportation routes within Bethel Township consist of State, Township, and private roads. The State roads and some Township roads connect the Township with adjacent townships and boroughs. The Township roads provide the majority of the access to areas within the Township. Maintenance of the roads within the Township is generally the responsibility of the State and the Township. The State usually maintains the roads between centers of population. It also appears that many areas within the Township are not easily accessible by roads.

Interstate 78, U.S. 22 and PA Route 343 are the major routes in Bethel Township. I-78 and U.S. 22 run East / West and divide the Township. They also provide access to adjacent townships and boroughs. PA Route 343 is the major North/South route – between the City of Lebanon and Fredericksburg. Other major roads include SR 1008, SR 1011, SR 1014, and SR 1020. These roads also connect the Township to neighboring townships and boroughs.

The availability of transportation systems has been a major factor in community development. Mobility is one of the most important characteristics of 20th-Century lifestyle. The automobile has been one of the most important means of transportation. The automobile allows mankind to reside further away from their employment and increases the need for better and safer roads. The location and character of transportation systems have determined the extent and direction of urban growth and frequently decide the allocation of commercial and industrial uses. In Bethel Township, one of the most important determinants of the timing and location of development is the roadway system.
Increased traffic due to development causes additional wear and damage to existing roads. Many of these roads may not have been designed to handle this increase in demand. As development continues on local roads there may also be a conflict between agricultural and residential use of these roads.

Road Classifications

Historically, Bethel Township's roads have been subject to the regulations of the State. Standards for new street design are found in the Township's Subdivision and Land Development regulations. Roads are commonly classified according to a system based on their ability to carry volumes of traffic. Roads typically have two important functions. First, they permit physical mobility and the ability to go from one place to another place. Secondly, roadways provide access to individual properties. Although both these two characteristics are found to some extent in every roadway, different types of roadways provide relatively different amounts of access and mobility. For example, major highways (e.g. Interstates 78 and 81 and U.S. Route 22) provide a high measure of mobility, by linking different states and regions. However, a road such as Interstate 78 provides relatively little access, because access points are often miles apart. By further analogy, Blue Mountain View Drive in Bethel Township provides a high level of access because it connects with a number of similar roads as well as driveways. However, it provides relatively little mobility because it serves a small geographic area. The functional classification of a road is an important planning principle.

Roads are commonly categorized by mobility and accessibility. Each characteristic affects the other. Larger roads with several lanes are able to provide greater mobility, but as road size increases, ability to access it decreases. Either larger roads are restricted with traffic lights, (which slow down mobility) or they are accessed by on/off ramps. In comparison, a small road within a subdivision is easily accessible, but mobility on it is restricted to a greater degree.

Regardless of the classification, the adequacy of the circulation system is determined by the ability of roads and highways to perform certain assigned functions of traffic movement. For example, the function of an arterial road is generally to move vehicles from one point to another in an efficient, safe and rapid manner. More than any other type, the arterial road illustrates the conflict between the movement of traffic and the land access function. The two functions are incompatible. When volumes of traffic are low and the density of the abutting development is low, the conflict is not serious. However, when traffic volumes are high and the adjoining land is intensely used, the number of points of
conflict increases rapidly. It is therefore important to understand the appropriate functions of different roads in order to prevent misuse and failure of the system.

Functional classifications of roads in Bethel Township are based on Pennsylvania Department of Transportation criteria, as follows:

Table 3-19
Functional Classifications - Rural

<table>
<thead>
<tr>
<th>Classification</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Principal Arterial</td>
<td>Serves corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.</td>
</tr>
<tr>
<td>Rural Minor Arterial</td>
<td>Links cities and larger towns, and forms an integrated network providing interstate and intercounty service.</td>
</tr>
<tr>
<td>Rural Collector</td>
<td>Generally serves travel of primarily intra-county rather than statewide importance and constitutes the route on which predominate travel distances are shorter than on arterial routes. Rural collectors are subclassified into two categories - major and minor.</td>
</tr>
<tr>
<td>Rural Local</td>
<td>Serves primarily to provide access to adjacent land, and provides service to travel over relatively short distances as compared to collectors or other higher systems.</td>
</tr>
</tbody>
</table>

The Transportation Map identifies the major system of highways and streets in Bethel Township based on the above classifications. The following table includes additional data on the state roads in the Township.

The classifications noted here are relative to the size and nature of the municipality. For example, the county may classify a road as a local road while the local municipality would classify the same road as a collector. This occurs because roads are classified based on a comparison to other roads within the municipal road network. For purposes of this plan, the classifications are specifically for Bethel Township. These classifications may differ slightly from Lebanon County's classifications.
Classification of Roads in the Township

**Interstates/Other Expressways**
Interstate 78 (I-78), with two interchanges located in the Township and Interstate 81 (I-81), which is accessible from I-78 or from Main Street / Lickdale Road at Lickdale.

**Rural Minor Arterials**
U.S. 22 (Allentown Boulevard)

**Rural Major Collectors**
PA 343 (Pine Grove Street, Pine Grove Road, Legionnaire Drive)
SR 1007 (Pine Grove Street between US 22 and I-78)
SR 1008 (Freeport Road, Stracks Dam Road)
SR 1011 (Mt. Zion Road south of Stracks Dam Road)
SR 1020 (Main Street, Lickdale Road)

**Rural Minor Collectors**
SR 1011 (Mt. Zion Road north of Stracks Dam Road)
SR 1014 (Greble Road west of PA 343)

**Rural Local Roads**
All other State and Township roads are classified as local roads.

Land use is greatly affected by the surrounding road system. The classifications of the roads in the Township will be used in the determination of the type of land uses to be allowed in various locations in the Township. Conversely, these roads will need to provide the necessary access for the specific land uses planned for the Township.
Table 3-20
Roadway Characteristics
Bethel Township

<table>
<thead>
<tr>
<th>Route No.</th>
<th>Functional Classification</th>
<th>1998 AADT</th>
<th>% of Trucks</th>
<th>No. of Lanes</th>
<th>Paved Width</th>
<th>Year Last Resurfaced</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-78</td>
<td>01</td>
<td>21,000 – 27,000</td>
<td>38 - 48</td>
<td>4</td>
<td>48</td>
<td>1991</td>
</tr>
<tr>
<td>I-81</td>
<td>01</td>
<td>24,000</td>
<td>27 - 29</td>
<td>4</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>US 22</td>
<td>06</td>
<td>1,800-9,800</td>
<td>17 - 21</td>
<td>4</td>
<td>48</td>
<td>1988</td>
</tr>
<tr>
<td>PA 343</td>
<td>07</td>
<td>2,100 – 7,800</td>
<td>3 - 21</td>
<td>2</td>
<td>22 - 24</td>
<td>1996</td>
</tr>
<tr>
<td>SR 1007</td>
<td>07</td>
<td>1,000 – 1,300</td>
<td>13 - 21</td>
<td>2</td>
<td>22</td>
<td>1987-1999</td>
</tr>
<tr>
<td>SR 1008</td>
<td>07</td>
<td>1,100 - 1,500</td>
<td>9</td>
<td>2</td>
<td>22</td>
<td>2000</td>
</tr>
<tr>
<td>SR 1009</td>
<td>09</td>
<td>750</td>
<td>9</td>
<td>2</td>
<td>14 - 18</td>
<td>1991</td>
</tr>
<tr>
<td>SR 1010</td>
<td>09</td>
<td>700</td>
<td>9</td>
<td>2</td>
<td>18</td>
<td>1989</td>
</tr>
<tr>
<td>SR 1011</td>
<td>07,08</td>
<td>1,200 – 2,600</td>
<td>9</td>
<td>2</td>
<td>16-24</td>
<td>1972(?)</td>
</tr>
<tr>
<td>SR 1013</td>
<td>09</td>
<td>1,200</td>
<td>5</td>
<td>2</td>
<td>22</td>
<td>(?)</td>
</tr>
<tr>
<td>SR 1014</td>
<td>08</td>
<td>250 – 1,400</td>
<td>9</td>
<td>2</td>
<td>14-18</td>
<td>1994</td>
</tr>
<tr>
<td>SR 1016</td>
<td>09</td>
<td>500</td>
<td>9</td>
<td>2</td>
<td>18-22</td>
<td>1991-1999</td>
</tr>
<tr>
<td>SR 1018</td>
<td>09</td>
<td>1,100</td>
<td>9</td>
<td>2</td>
<td>18</td>
<td>1999</td>
</tr>
<tr>
<td>SR 1020</td>
<td>07</td>
<td>2,600</td>
<td>11</td>
<td>2</td>
<td>20</td>
<td>1993-1994</td>
</tr>
</tbody>
</table>

Functional Classification:
01 - Interstates/Other Expressways
06 – Rural Minor Arterials
07 – Rural Major Collectors
08 – Rural Minor Collectors
09 – Rural Local

Source: PA Department of Transportation

BETHEL TOWNSHIP COMPREHENSIVE PLAN (REVISED JUNE 2002) 3-38
Area Transportation Evaluation

The following have been identified from (1) Township officials or (2) residents’ surveys as areas of concern with regard to transportation in the Township:

- Speeding issues related to the following roads:
  - U.S. 22 – particularly (1) near the high school and (2) east of Legionnaire Drive
  - PA Route 343
  - North Center Street
  - Main Street
  - Elk and Deer Drives
  - Mt. Zion Road near Prescott Drive
  - Mt. Zion Road near Beagle Road

- Improvements to storm drainage facilities related to the following roads:
  - Greble Road
  - Union Road, between Beagle Road and Swatara Creek
  - Short Road

- Truck traffic on certain roads in the Township

- Pavement markings on Blue Mountain Road

- Traffic light at Pine Grove Street and Main Street

- Stop sign on North Center Street at top of hill

- Stop sign at Center Street and Main Street

- Parking problems on the square in Fredericksburg

- Road and roadside maintenance

- Several Township roads and portions of other Township roads are unimproved.
**Existing Land Use**

For the Township to plan for its future, it must have a good understanding of its past, and of its resources. Prior sections of this Chapter evaluated the physical and social aspects of the Township, and identified a number of resources and constraints.

One of the most important elements of this Comprehensive Plan is an analysis of how land has historically been and currently is being used. This section is an analysis of the Township's existing land uses, or how land is being used today. This information is necessary for the following reasons:

1. *An existing land use analysis can provide a framework in which to understand the historic forces and trends that have resulted in the current arrangement of land uses.*

2. *The analysis can reveal constraints to future development.*

3. *The analysis can help identify areas suitable for future development.*

4. *The analysis can result in information regarding the size and use of property.*

5. *The analysis can determine the amount of land required for various types of use; the areas and locations within the Township best suited for various uses; and the appropriate types and boundaries of any proposed zoning districts.*

6. *The analysis can help to establish a framework for programming future activities and patterns of density.*

7. *The analysis can help to ensure that the Future Land Use Plan does not cause conflict with existing landowners.*

The actual analysis utilized a number of different information sources. First, a map showing basic land information had to be created. This map was created from Tax Assessment (parcel) Mapping obtained from Lebanon County. This map also included roadways, major watercourses, and Township boundaries. The Tax Assessment Maps were used as the basis for a "field survey", in which each property was assigned a specific land use category. This survey was conducted in the summer of 2001. The results of this survey are shown on the Land Use/Land Cover Map.
Traffic Volumes

The ability of highways to carry large volumes of traffic is controlled by several factors. The number of traffic lanes, grades, sight distances, proportion of trucks, operating speeds and roadway clearance are some of the more important elements that affect capacity.

The volume of traffic on the principal traffic routes in the Township is also shown in the table above. 1998 annual average daily traffic counts (AADT) obtained from the Pennsylvania Department of Transportation are shown on state routes. The AADT is determined by counting the number of vehicles passing a specific point for one week and averaging the results for each 24-hour period during the week. These counts aid the Department of Transportation in determining which roads should have priority for repairs and/or improvements.

Since Bethel Township contains traffic generators such as businesses, shopping areas, tourist attractions, industry, etc., there are areas of traffic congestion. The highest volumes of traffic are witnessed on US 22, PA 343, I-81 and I-78 which are the four major traffic routes running through the Township.

Traffic Accidents

The utilization of the private automobile as the major mode of transportation within Bethel Township contributes greatly to the occurrence of traffic accidents within the municipal boundaries. According to the 1990 U.S. Bureau of Census, over ninety percent of the labor force in the Township used the private automobile as the means of transportation to work. This high percentage, accompanied by additional volume created by through-traffic, shopping trips, etc., increases the potential for traffic accidents.

Rail Transportation

No rail lines are located within the boundaries of Bethel Township. The nearest rail lines are located in the City of Lebanon.
Air Transportation

The Farmers Pride Airport is located west of the Village of Fredericksburg. It is classified as a General Service, public airport, with sod runway. It offers fuel service and flight instruction. There are no airports located in the County with regularly scheduled air service. The nearest such facilities are located in Reading, Lancaster and Harrisburg.

Public Transportation Facilities

According to the 1990 U.S. Census, none of those Township residents traveling to work indicated that they traveled by bus to work. Public transportation services are rather limited in Bethel Township. The County of Lebanon Transit Authority (COLT) currently operates one bus route in the Township – Quest North along PA 343 to Fredericksburg. The County of Lebanon Transit Authority also provides shared-ride services. Other community services organizations provide free or reduced fare transportation services. The only other public transit available in Bethel Township is that provided by the taxi companies of the area.

Transportation Projects

Land use planning must ensure that growth occurs in a manner that accounts for the capacities and characteristics of the local roadway systems with particular regard for volume of traffic on the road, the type of trip provided, the destination, and the speed of the trip.

Funding for roadway projects in the Township comes from various sources - local, state and Federal. The Township receives Liquid Fuels monies for repair and maintenance of its local roads and bridges. The funding of major highway projects, however, is usually through PaDOT's Twelve-Year Improvement Program. The only project located in Bethel Township included in the current Twelve-Year Program is a bridge replacement on Greble Road (over Elizabeth Run).
In general, land uses in Bethel Township include agricultural areas, villages/population centers, single-family detached dwellings, mobile homes, scattered commercial and industrial areas, recreational areas, and community facilities.

For planning purposes, existing land use/land cover was divided into the following categories:

Table 3-21
Land Use / Land Cover Classifications
Bethel Township

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>All residential land uses are classified by type of enclosed dwelling unit - one, two, multiple, etc. For this purpose, one dwelling unit represents a household having the customary facilities necessary to accommodate one family.</td>
</tr>
<tr>
<td>Single Family</td>
<td>One detached dwelling unit.</td>
</tr>
<tr>
<td>Two Family</td>
<td>Two dwelling units - two dwelling units over or attached to other use.</td>
</tr>
<tr>
<td>Multi-Family</td>
<td>Three or more dwelling units - row housing, three or more dwellings over or attached to other use, multi-story apartments.</td>
</tr>
<tr>
<td>Mobile Home Park</td>
<td>Prefabricated housing fixed as non-transient living unit - placed in courts, camps, parks.</td>
</tr>
<tr>
<td>Mixed Residential / Commercial</td>
<td>Residential uses with accessory commercial activities</td>
</tr>
<tr>
<td>Commercial</td>
<td>Any building or floor use whose economic function involves engaging in the sale of goods (retail or wholesale), food and drink (restaurants, bars, etc.), services of a business, personal, or professional nature or for entertainment (theaters, amusement parks, etc.)</td>
</tr>
<tr>
<td>Industrial</td>
<td>Establishments engaged in the production of goods or nonmanufactured products or services (e.g., construction, mining, warehousing, etc.), and the grounds used by these companies.</td>
</tr>
</tbody>
</table>
### Classification | Description
---|---
Community Facilities | Any building or floor area devoted to the use of public administration, health, safety, welfare, and education as listed in the accompanying categories. This classification includes school buildings and the grounds associated with the schools, churches and associated grounds, municipal buildings, fire company buildings, fraternal organizations, nursing homes, etc. This category also includes roadway and railroad rights-of-way, utility facilities and land holdings. It does not include recreation areas.

Agriculture | Land occupied by farms and farming related uses, including farmsteads. This category includes small woodlots when they are part of the farm property. Also included are orchards, nurseries, greenhouses, etc.

Vacant | Open spaces not being used for any specific purposes, including land being occupied by abandoned buildings.

Woodland | Wooded areas, excluding small woodlots that are a part of farm buildings.

Water | Areas covered by water, including rivers, streams, ponds, and impoundments.

The Township's growth has been influenced by a number of factors, including its distance from areas of concentrated development, the existence of Interstates 78 and 81, U.S. 22, and Pa Routes 72 and 343 (major highway arteries in the region), and a history of agricultural activities. The pattern of land use is characterized as follows:

**Woodlands**

This land use category includes most wooded areas, but excludes small woodlots when they are part of a farm property.

**Agricultural**

Geographically, this land use dominates the vast majority of the Township's land area. The dominant types of agricultural activity include the raising of field crops and dairy farming. The sizes of farms vary, but most range between 40 and 150 acres. The agricultural activities take advantage of the excellent quality soils found throughout the Township.
This land use category includes farms, farm dwellings and other farm structures. The mapping of this category is broken down into (1) farmsteads, including barns and confined feeding operations and (2) agricultural land. Geographically; this area comprises approximately one-half of the total land area in Bethel Township. It is located in the Monroe Valley and extends throughout the Township south of Little Mountain.

**Residential**

This land use category is dominated by single family detached dwellings on lots in planned subdivisions, dwellings in older, established villages (Fredericksburg) and rural hamlets (Mt. Zion, Hamlin and Camp Strausse), dwellings fronting along the major roadways, and scattered dwellings and individual mobile homes located throughout the woodlands and agricultural areas. The majority of residential land uses are concentrated in the Fredericksburg area. Other small, and somewhat isolated, subdivisions are located in what would otherwise be characterized as agricultural areas. Some large residences, particularly in the villages, have been converted into multi-family dwellings. Several mobile home parks are also located in the Township. Frequently, lots have been created along the frontages of larger parcels, which remain farmed in the remaining interior areas. This type of land usage is economically attractive to the farmer/landowner because it takes advantage of roadway access, but it creates an impression of less open space than actually exists, because the developed frontage areas block views of farm areas. It also can create residential/agricultural conflicts.

**Mixed Residential/Commercial**

There are a small number of residential uses with accessory commercial activities identified. These are primarily located in the Village of Fredericksburg.

**Commercial**

Commercial uses include such uses as retail stores, personal services, gas stations, motels, restaurants, offices, and similar facilities. These facilities typically require good vehicle access and/or good visibility. Therefore, they generally gravitate towards heavily-traveled roadways and to concentrations of residential and industrial development, so customers, clients, and employees can easily use the facility. Relatively little of the total Township land area is devoted to this land use category in Bethel Township. These facilities can be generally found in
Fredericksburg and in the I-78/U.S. 22 corridor. Other commercial establishments are located in isolated areas elsewhere in the Township. Several commercial ventures are operated as accessory uses to residences and/or farm operations.

**Industrial**

The industrial category includes uses such as manufacturing, warehousing, assembly, and wholesale trade activities. Industrial uses in Lebanon County include heavy industrial (i.e. large-scale) manufacturing and processing and light industry (small-scale assembly and procession) and industrial parks. The industrial land use classification includes facilities such as Pennfield Farms, College Hill Poultry, Farmers Pride, Inc., Sherwin Williams, and the Keystone Protein Company.

**Community Facilities**

This category includes uses such as the Township municipal building, Fredericksburg Area Library, Northern Lebanon High School, Fredericksburg Elementary School, Fredericksburg Fire Company, Camp Strausse Fire Company, Mt. Zion Fire Company, as well as churches/cemeteries, and other facilities that provide public/quasi-public services. Also included in this land use category are utility and transportation-related services, such as the Fredericksburg Sewer and Water Authority’s facilities and Farmer’s Pride Airport.

**Recreational Facilities**

Recreational uses include the Monroe Valley, Pine Meadows, Freeport Mills and Blue Mountain Golf Courses, Lions Park, Fredericksburg Fireman’s Park, Lake Strausse, the American Legion ball field, Camp Central, seasonal cottages, sportsmen’s clubs and camps, and state-owned lands. The largest amount of land in this land use category consists of State Game Lands and Swatara State Park.

**Vacant Land**

This land use category includes subdivided but as yet undeveloped residential or commercial lots as well as other areas that do not appear to be in use or related to any other identified land use category.
Community Facilities and Services

Community facilities are an important component of a developing area and add immeasurably to the quality of life. They encompass not only those facilities owned by the public but also those owned and operated by private enterprise for the benefit of the community as well. Community facilities and services include schools, parks and recreation, police and fire protection, ambulance service, municipal administrative functions, and utilities. Deficiencies in the present levels of services, expansion possibilities, and future requirements should be evaluated and related to potential demand so that Bethel Township can be prepared to provide these services as the need arises.

Educational Facilities

Bethel Township is part of Northern Lebanon School District. The District is comprised of Bethel, East Hanover, Cold Spring, Swatara and Union Townships, and Jonestown Borough. Northern Lebanon School District offers Kindergarten through grade 12 education levels and operates six facilities. They include the following:

- Middle School / High School (Grades 7 through 12)
- Fredericksburg Elementary (Grades K through 6)
- East Hanover Elementary (Grades K through 6)
- Jonestown Elementary (Grades K through 6)
- Lickdale Elementary (Grades K through 6)

Both the Middle School / High School complex and the Fredericksburg Elementary School are located in Bethel Township.

Utilities and Services

The availability of the various utilities in Bethel Township is important both in terms of its present development and its future growth. Portions of the developed areas of Bethel Township west of and adjacent to and including the Village of Fredericksburg are served by both public water and sewer. The sewage collection and treatment as well as water treatment and distribution systems are owned and operated by the Fredericksburg Sewer and Water Authority (FSWA). While some extensions of public water and/or sewer service are proposed in the foreseeable future (next ten years), the majority of the land area of the Township will not be served by either public water or sewer service into the foreseeable
future. As a result, care should be taken to assure a continued supply of groundwater and proper functioning of on-lot sewage disposal methods.

**Water Supply**

As previously mentioned, the Fredericksburg area is currently served by public water through the Fredericksburg Sewer and Water Authority’s system. Water service is provided without public sewers in several limited areas around the village. This included a 12" main extending easterly from the village along Main Street and U.S. 22, to Legionnaire Drive, then northerly along Legionnaire Drive and crossing North Pine Grove Street and westerly along I-78 to Center Street at Beach Run Mobile Home Park. Several smaller 8" extensions have been constructed in anticipation of future development.

Recently, the Authority completed a major improvement to its water distribution capabilities. This improvement increased volume and service via a 16" D.I.P. main from Jonestown Borough to the village of Fredericksburg (a distance of over 3.5 miles). This extension provides domestic water service to residents located along its route and also extends fire protection to previously unprotected areas, including Northern Lebanon High School. Prior to the interconnection, water was drawn from a well field located northwest of the village, which limited the volume available to users. The interconnection has enabled continued growth in the Township, with several large residential and commercial developments already constructed and several in the planning stage.

A water main extension is planned for the area along U.S. 22 from Legionnaire Drive to beyond Blue Mountain road. This extension will allow for additional commercial development along the U.S. 22 corridor, and will also permit future service to the Chestnut Hill and Blue Mountain View residential areas.

The remaining portions of the Township utilize private groundwater sources. Based on the underlying geology and low to moderate rate of growth projected for these areas of the Township, groundwater source development is probably adequate for drinking water supply. The feasibility of further expanding the Fredericksburg Sewer and Water Authority’s system could be examined in the future if needs arise.

In order to protect groundwater resources, groundwater quality should be continually monitored and needs addressed as they arise. Recharge area preservation and
creation should be promoted in land use planning. Protection from groundwater degradation can be promoted by the implementation and periodic evaluation of the Township's Act 537 (Sewage Facilities) Plan. Separation of major industrial development from private residential wells should be encouraged to minimize aquifer competition.

Sewage Disposal

Public utilities, especially sewer service, have profound effects on the ability to construct housing or non-residential development. Areas not served by public wastewater treatment systems must rely on on-site sewage disposal, usually in the form of a septic tank and drainfield / sand mound system. Areas outside sewer service areas typically require relatively large lots to allow adequate area for the necessary separation between the well and septic drainfield. As a result, density is low and these areas do not have any significant flexibility regarding subdivision layout or design.

The majority of high-density residential and non-residential uses in Bethel Township are served by existing wastewater treatment systems located within or adjacent to the Village of Fredericksburg. There are, however, three additional treatment facilities currently in cooperation in Bethel Township. Until recently, Esther's Diner and Redner's Grocery Store, both located east of Fredericksburg, each operated a sewage treatment plant. The Lebanon Valley Mobile Home Park (located along the north side of Freeport Road, west of the Village of Mt. Zion, also operates a treatment facility. A sewer extension has been installed along U.S. 22 from Legionnaire Drive to beyond Blue Mountain Road. Esther's Diner and Redner's have been connected to the FSWA sewer system as a result of this sewer extension. This sewer extension will also permit future service to the Chestnut Hill and Blue Mountain View residential areas.

The Township's recently updated Act 537 Official Sewage Facilities Plan proposes several new projects related to public sewer service in Bethel Township. They include (1) the expansion of the existing FSWA wastewater treatment facility from 150,000 gallons per day (gpd) permitted capacity to 250,000 gpd, (2) the extension of sewers to the Elk Drive, Deed Drive and Greble Road area south of Fredericksburg, and (3) the construction of a new wastewater treatment facility and collection system to serve the Monroe Valley/Camp Strausse area, as well as adjacent portions of Swatara Township.

The recommended method of sewage disposal for the remaining portions of the Township is continued use of on-lot disposal systems. The Act 537 Plan will remain
effective in addressing foreseeable sewage needs, as long as growth is limited to those areas that are appropriately planned. The Township should continue to evaluate existing sewage facilities and the Act 537 Plan to address needs as they arise.

Other Utilities

In addition to public water and sewer facilities, several other utilities serve the Township. GPU serves the electric power needs of Township residents. Verizon provides telephone service and cable TV service is provided to portions of the Township by Comcast Cable. Township property owners contract for solid waste collection services through private hauling companies. - no municipal or Township-wide contract collection services are provided.

Emergency Services

Emergency services provide a valuable service for the safety and welfare of Bethel Township residents and businesses. Police, fire and ambulance squads provide life and property saving services that are vital to the community's quality of life. Fire and police protection and emergency medical services are identified and discussed below. The Lebanon County Emergency Management Agency is active 24 hours a day to provide necessary protection in emergencies. The EMA Control Center in the County Municipal Building is the headquarters for the radio network of the fire departments throughout the County. Police calls for all political subdivisions outside the City are also handled through the EMA. An enhanced 911 system is in effect with the ability to trace calls, offering close cooperation and efficiency with all law enforcement facilities.

Police Services

Police protection for the Township is provided by the Bethel Township Police Department, and backed up by Pennsylvania State Police out of the Jonestown Barracks. Police protection is an expected and appreciated service by the residents of Bethel Township. The need for such services likely will grow as the population and amount of non-residential development grows.
The police departments throughout the County maintain their basic radio systems. Also, the EMA, located in the County Municipal Building, has constant communication with Borough and Township officials.

Fire Services

Bethel Township is served entirely by local volunteer fire companies. Three fire companies are located in the Township. They are (1) the Fredericksburg Fire Company, (2) the Camp Strausse Fire Company and (3) the Mt. Zion Fire Company. Each company has a primary service area and provides secondary (backup) fire protection when summoned. Various fire companies located outside the Township also provide support. All fire calls are dispatched by Lebanon County EMA to appropriate fire departments when needed.

Ambulance Service

There are six ambulance services in Lebanon County, two in the City of Lebanon. The Life Lion helicopter is also available.

Open Space, Parks and Recreation

People tend to interchange the terms open space, parks, and recreation. Provided here are definitions of these three terms that are used throughout this Plan. Many agencies, from public to private, provide recreational opportunities for Bethel Township residents.

Open Space

In the broadest terms, open space is all undeveloped areas of the Township. This can include agricultural land, woodlands, stream valleys, public parks, golf courses, and tree nurseries.

Parks

Public parks come in all sizes, from 1/2-acre tot lots to 1,000-acre state parks. Parks are places where people go to pursue leisure activities and can include passive or active settings. Typically, in Central Pennsylvania,
county and state parks provide passive recreational experiences and include hiking trails, picnic areas, and camping facilities. Local municipalities provide smaller parks, closer to home, and with more emphasis on active facilities such as fields, courts, and play areas.

Recreation

Recreation is activity that residents do at parks and community facilities. This activity can also be active or passive in nature. Active recreation tends to be associated with specific facilities and group-oriented such as baseball or tennis. Public recreation is an activity sponsored by a public agency such as a municipality or school district.

Traditionally, there are four levels of government (local, county, state and federal) that strive to meet open space and recreation needs. Also, public schools and private agencies play important roles. In theory, if each agency assumes its appropriate role, the needs of Bethel Township residents would be met without duplicating services.

Limited active recreational facilities, either public or private, are currently available to Bethel Township residents in and around the Township. Facilities are associated with the Northern Lebanon School District buildings located in the Township- including athletic fields and courts at the Middle School/High School Campus and at Fredericksburg Elementary School.

There are four golf courses located in the Township - Monroe Valley, Pine Meadows, Freeport Mills and Blue Mountain. Lions Park, owned by the Fredericksburg Lions Club, offers picnic facilities and a swimming pool. Fredericksburg Fireman’s Park, Lake Strausse, the American Legion ball field, Camp Central, seasonal cottages, sportsmen’s clubs and camps, and state-owned lands also provide recreational opportunities. A large amount of land is in State Game Lands and in the Swatara State Park.
CHAPTER 4
THE COMPREHENSIVE PLAN

The Comprehensive Plan is the Township's guideline for future growth, and is based on the information contained in the preceding chapters. This chapter is intended to show, in general categories, recommended types of future land use for the next 15-20 years, proposals for transportation facilities, community facilities and utilities, water supply, natural, cultural and historic features preservation and housing. This chapter represents the culmination of the community goals and objectives, and reflects existing land use, environmental constraints and potentials, transportation facilities, population projections, housing (i.e. “fair share”), community facilities, utilities and other elements.

PROPOSED FUTURE LAND USE PLAN

One of the most important elements in the comprehensive planning process is the charting of a municipality's future land use. The proposed Future Land Use plan, as illustrated in the Future Land Use Plan Map, reflects Bethel Township's goals and objectives, as adopted by the Planning Commission and Board of Supervisors. The overall goal of the Land Use Plan is the protection and enhancement of residential neighborhoods, the improvement of the Township's economic base and the preservation of prime farmland soils areas and corresponding agricultural activities. The plan suggests a broad range of uses consistent with the Township's goals.

The Future Land Use Plan is a basic planning tool for Bethel Township, which needs to be periodically reviewed and updated to reflect changing circumstances and aspirations. The Future Land Use Plan is not to be confused with the Township's Zoning Ordinance. The Future Land Use Plan is a policy document that identifies the generalized locations of proposed classes of land uses, whereas the Zoning Ordinance is an enforceable regulation that maps specific locations (zoning districts) where specific types of land uses are permitted, with specific dimensional and performance regulations. While the Future Land Use Plan is not legally binding under current State law, it does provide the framework for decisions relating to future zoning revisions, community development programming, capital improvements programming, and various other planning activities.

The Land Use Plan indicates a desirable future pattern of growth by indicating what types of activities should be located within the Township, as well as the intensity and a general
location of land uses. The Plan is structured based on several influence factors. These include (1) the existing pattern of land use; (2) the natural features of the Township; (3) the existing and contemplated transportation and utility facilities; (4) the importance of agriculture to the Township’s economy; and (5) the capability of Township land to support additional growth.

The following paragraphs describe the land use categories shown on the Land Use Plan. It must be remembered that the Plan is meant to be generalized and conceptual in nature, and thus the boundaries of the various land use categories shown on the Future Land Use Map are not meant to be exact.

The Future Land Use Plan for the Township divides its land area into Rural Resource Areas and Designated Growth Areas. As defined by the MPC, a Rural Resource Area is “an area described in a municipal or multimunicipal plan within which rural resource uses including, but not limited to, agriculture, timbering, mining, quarrying and other extractive industries, forest and game lands and recreation and tourism are encouraged and enhanced, development that is compatible with or supportive of such uses in permitted, and public infrastructure services are not provided except in villages.” A Designated Growth Area is “a region within a county or counties described in a municipal or multimunicipal plan that preferably includes and surrounds a city, borough or village, and within which residential and mixed use development is permitted or planned for at densities of one unit to the acre or more, commercial, industrial and institutional uses are permitted or planned for and public infrastructure services are provided or planned”.

The Rural Resource Areas of the Township are represented by the Forest Conservation, Floodplains, Agricultural and Rural land use categories on the Future Land Use Map.

Forest Conservation

Several areas of the Township are identified for Forest Conservation uses. The purpose of this category is to protect those portions of the Township that should be generally reserved in open space to protect one of the Township’s most significant and highly sensitive natural features - namely, the steep slope areas of the Blue Mountain and Little Mountain.

It is recommended that these areas either be preserved in their undeveloped states or be permitted to be developed at extremely low densities and with appropriate conservation measures. If development is permitted, measures
should be in place that would minimize the amount of disturbance to the natural environment.

**Floodplains**

To minimize erosion, sedimentation, flooding, and surface water degradation, man-made encroachments on floodplains, wetlands, and stream corridors should only be permitted when no other feasible options exist. Such encroachments must be monitored to ensure that all necessary local, state, and federal permits are obtained.

Stream corridors are extremely sensitive. Grass filter strips should be planted along the borders of fields, adjacent to roads and streams, to prevent the surface runoff of soil, nutrients, and fertilizers. Streams should also be fenced to keep livestock out. Trees also play an important role in maintaining high water quality and keeping water temperature low enough for trout throughout the summer. For these reasons, the Township should consider “overlay zoning” requirements for the preservation of stream valleys. Typically such regulations are referred to as “riparian buffers”.

In addition to the environmental significance of such areas, the preservation of stream valleys maintains the scenic beauty of the Township and provides the potential to link areas with a network of trails within “greenways”. Pedestrian trails could be created with new subdivisions or acquired from current property owners

**Agricultural**

This category is comprised of those areas of the Township that are predominantly prime agricultural land and/or currently in agricultural production. Limited residential development and agriculturally related commercial uses may also be scattered among the agricultural uses.

The primary purpose of this area is to encourage the continuance of farming activities by preserving the Township’s prime agricultural soils to the greatest extent possible and by allowing land uses that are compatible with agriculture.
The Township has drafted this proposed policy related to agricultural lands:

In planning for agricultural land, it is the Township's policy not to consider agricultural land as "undeveloped farmland awaiting another use." Farmland must be considered as "developed land." It is being used to produce a product. Farming is a land-intensive manufacturing process that converts raw materials into a product, comparable to other industrial operations, with occasional accompanying nuisances of noise, odor and dust. The agricultural zone should not be considered a holding zone, but as a zone having a positive purpose of utilizing the Township's natural resources for the benefit of the entire community, and the Township should protect the agricultural zone from interference by incompatible uses that break down the integrity of the zone and also interfere with normal and customary operations within the zone.

To support local farmers, agricultural-related businesses should be allowed in this area. Such agricultural support businesses could include farm implement dealers, grain suppliers, and produce markets.

Large, contiguous tracts with prime agricultural soils should receive top priority for protection through agricultural zoning and voluntary conservation easements. To ensure that farming remains the dominant land use, it is recommended that the existing Agricultural Zoning District be split into two separate zoning districts - an Agricultural District and a Rural District. The subdivision of land for rural housing and nonresidential uses that are compatible with farming should be permitted. However, the following improvements to the Zoning Ordinance should be considered to allow such subdivisions while at the same time maintaining the effectiveness of true agricultural zoning:

The number of future subdivisions permitted in the proposed Agricultural Zoning District should be reduced. Much more than 20 years worth of the Township's projected residential growth could occur within the current Agricultural Zoning District. Maintaining the status quo would not direct growth to more appropriate areas nor would it preserve farmland or the
farming community. One option to reduce residential subdivisions in agricultural areas would be to limit the number of lots that could be subdivided from any given tract. One such approach, a "sliding scale" approach would allow one lot to be subdivided per every so many acres of the "parent tract" or fraction thereof. The parent tract refers to the original parcel, prior to subdivision as it exists at the time the zoning ordinance is enacted (or amended). For example, in accordance with a proposed "sliding scale" agricultural zoning provisions, a 40-acre "parent tract" could be subdivided to create two new lots and a parent lot. As the size of a parent tract increased the proportionate number of available subdivisions would be reduced.

Future homes in the Agricultural areas should be located in a manner that preserves valuable farmland, scenic vistas, and important natural features such as stream valleys, wetlands, steep slopes, and wildlife habitat areas. New homes should also be located within close proximity to existing and future homes. To accomplish these objectives, it may be necessary to abandon the conventional method of subdividing existing road frontage in favor of alternative lot and street configurations, including common driveways and cul-de-sac streets.

Within predominantly agricultural areas, residents must accept the undesirable consequences of normal farming activities such as odors, dust, truck traffic, and unusual hours of operations. The "Right to Farm Law" protects farmers from nuisance laws that adversely impact normal farming operations.

Agricultural operations that exceed "normal" farming levels are often referred to as "intensive agriculture", "factory farms", or "confined animal feeding operations (CAFO's)". Such operations can have a significant detrimental effect on adjacent land uses. Major concerns with such operations involve groundwater quality, manure management, odors, flies, stormwater, lot area, and lot coverage. Although state and federal regulations address manure management issues with such uses, the Township should allow CAFO's in the new Agricultural Zoning District by special exception (or conditional use), with specific regulations addressing the key areas of concern.
Farmers who have no interest in subdividing their land could consider placing a voluntary conservation easement on their land or consider selling their development rights. Eligible property owners can sell conservation easements to the County or a non-profit conservancy. Such programs allow farmers to continue owning and farming the land with the assurance that their farm will continue to be farmed in perpetuity.

Rural

The Rural plan designation is intended to promote a continuation of the rural character of the area, which is characterized by a mixture of agricultural and sparsely developed residential uses. In addition, other small-scale nonresidential uses have developed. This land use designation will continue these development trends but will install additional protection for agricultural uses and rural residences from the impacts of other nonresidential uses.

Appropriate uses in rural areas include single-family dwellings, individual mobile homes, and other accessory and compatible uses. Rural areas are not likely to be served by public sewer or water facilities within the foreseeable future; therefore, larger lot sizes are indicated. Proposed rural lots should be sufficiently sized to accommodate one approved on-lot sewage disposal system, and a replacement absorption area location. The minimum lot size should be 60,000 square feet, or larger if needed to accommodate the on-lot systems.

The Rural areas have been located in areas of existing development and, where possible, away from large areas of productive farmlands. The four rural areas include (1) the Camp Strausse/Monroe Valley area; (2) the Mt. Zion area; (3) the Pine Grove Road / Blue Mountain Golf Course area north of I-78; (4) the Hamlin area, (5) the Greble area and (6) the areas south of the US 22 commercial corridor east of Fredericksburg.

Siting standards in zoning districts permitting rural development should encourage the placement of rural homes in small groupings so as to facilitate the protection of environmental features and minimize conflicts with adjacent agriculture. The "conservation (open space) subdivision" approach to development could also serve to facilitate the preservation of sensitive environmental features.
The Designated Growth Areas of the Township are represented by the proposed Low Density Residential, High Density Residential, Retail Business, Highway Commercial and Industrial/Manufacturing land use categories on the Future Land Use Map. The Designated Growth Areas of the Township are generally located in and around the Village of Fredericksburg and in the U.S. 22 / I-78 corridor. The proposed Growth Areas are served by public sewers (or can be served by extensions to the existing system). Most of the proposed Growth Areas are currently zoned for residential, commercial or industrial use.

Since the vast majority of the developable land in the Township is located on "prime agricultural land" as defined by the MPC, any future non-agricultural growth must be located on such "prime agricultural land". To attempt to preserve all such remaining lands in the Township would serve to stifle all other forms of development and related economic growth. The proposed Land Use Plan identifies areas adequate to accommodate such growth in locations meant to minimize disruption to existing and future agricultural operations, as well as to the Township’s roadway network.

The four population projections for the Township prepared previously were used to estimate the number of new housing units needed over the next 20 years and also can be used to estimate the amount of land area needed to accommodate these future housing units. Depending on the projection method used, the number of additional housing units anticipated over the next two decades could range from 300 to 520. It is the intent of this Plan to direct most of this future residential development into the Designated Growth Area of the Township. The five land use categories located in the Designated Growth area are as follows:

**Low Density Residential**

The Low Density Residential areas are the desired locations for the Township’s residential growth. Proposed locations include the suburbs of the Village of Fredericksburg — and generally encompass those portions of the Township that are currently zoned R-1 (Low Density Residential). The Low Density Residential category is comprised mainly of single-family detached residential development that will be served by both public water and sewer. Densities in the Low Density Residential areas should range between two (2) and (4) dwelling units per acre.

The Township should explore the possibility of zoning provisions that allow homes to be clustered in a manner that preserves open space. This design
concept is most commonly referred to as conservation design because the intent is to conserve natural features and open space by allowing a reduction in minimum lot size. Such provisions would require specific language addressing the maintenance and ownership of open space and any common facilities.

**High Density Residential**

This category is comprised of all types of residential uses, including single-family detached dwellings on small lots, single-family semi-detached dwellings, two family dwellings, attached dwellings (townhouses), garden apartments and mobile home parks. The more intensive residential uses would only be possible if the areas would be served by centralized water and sewerage services. Anticipated residential densities in the high-density residential areas could range up to eight (for townhouses) to fifteen (for apartments) dwelling units per acre. The high-density residential area is proposed in, and to the north/northeast of the Village of Fredericksburg. The proposed area is currently zoned R-2 (High Density Residential).

**Retail Business**

This land use category represents a mixture of commercial uses, including retail (such as stores and shops), personal services (such as barber shops/beauty salons) and office uses (such as banks, insurance agencies, real estate agencies, and other professional uses). The proposed retail business area is located in the downtown portion of Fredericksburg.

**Highway Commercial**

This land use category represents a mixture of commercial uses, including highway-oriented commercial areas (such as vehicle service stations, restaurants, motels, etc.), as well as retail (such as stores and shops), personal services (such as barber shops/beauty salons) and office uses (such as banks, insurance agencies, real estate agencies, and other professional uses). A limited number of "light" industrial uses could also be permitted in this area. (Light industrial uses are defined as manufacturing or storage uses which are characterized by the use of large sites, attractive buildings and inoffensive processes, and which can be compatible with neighboring residential uses.) The proposed highway commercial land use
category would continue this existing land use pattern and would be located in the US 22 / I-78 corridor. It is recommended, however, that future commercial uses be located in clusters adjacent to US 22, instead of developing as "strip development."

**Industrial/Manufacturing**

This land use category represents uses such as wholesaling businesses, warehousing, research and development laboratories, trucking terminals and manufacturing uses. In addition, it is proposed that commercial and office uses could also be located in this area, if located in a planned industrial/business park. The Township's topography, transportation network, and availability of centralized utility services limit the locations where such sites can be located. As a result, the proposed industrial area is located in Fredericksburg and adjacent to US 22 (west of Legionnaire Drive).

Substantial buffer requirements and site-specific conditions should be required to ensure that such activities would be compatible with surrounding residential or agricultural areas.

**Community Facilities**

This land use category is comprised of public and private institutional uses (such as the U.S. Post Office), educational facilities (such as the Northern Lebanon School District facilities), public utility facilities (such as the Sewer and Water Authority holdings and electric substations), religious and civic activities (such as churches, cemeteries, libraries and fire halls), and municipal buildings and grounds (such as the Township office). This category is also comprised of existing and future neighborhood recreation areas, along with municipally and institutionally owned facilities. The locations of such uses on the Future Land Use Plan reflect, for the most part, the locations of existing uses in the Township. New locations of public/institutional facilities are generally located in conjunction with new development and as a result, are not able to be depicted on the Future Land Use Map at this time. However, new community facilities should be encouraged to locate within Designated Growth Areas, so that they can be provided with public services and not encroach into the agricultural and rural portions of the Township.
RELATIONSHIP OF THE PLAN
TO ADJACENT MUNICIPALITIES' AND COUNTY PLANNING EFFORTS

Available comprehensive plans and zoning ordinances were reviewed during the preparation of this updated comprehensive plan to assess the compatibility of Bethel Township's existing and proposed development with that of existing and proposed development and plans in contiguous portions of neighboring municipalities and with the objectives and plans of the Lebanon County Comprehensive Plan. This assessment follows.

Seven municipalities surround Bethel Township. The Township is bounded on the north by Union Township; on the east by Pine Grove Township (Schuylkill County), Bethel and Tulpehocken Townships (Berks County) and Jackson Township; on the south by North Lebanon Township; and on the west by Swatara Township.

All of Union Township that borders Bethel Township is located north of the floodplain of the Swatara Creek and is located within the boundaries of Swatara State Park. Since this portion of Bethel Township is also located in the State Park, future land use in both townships will be consistent.

Pine Grove Township, Schuylkill County, abuts the northeastern portion of the Township. All of the adjacent portion in Pine Grove Township is zoned Rural Preservation District, which allows agricultural, woodland recreation and very low-density residential uses. The minimum allowable lot size is five acres, with provisions to allow smaller single-family residential lots — but only if the overall density of the tract being subdivided remains at approximately one dwelling unit for every ten acres. All adjacent portions of Bethel Township are proposed for Forest Conservation uses, at extremely low residential densities.

Bethel and Tulpehocken Townships (Berks County) also abut the Township to the east. Bethel Township (Berks County) extends from the Pine Grove Township line south to the Little Swatara Creek — at the Tulpehocken Township line. Land in Bethel (Berks) north of Johnson Lane is zoned EP (Environmental Protection District). This district allows single-family residences on minimum 5-acre lots, along with agricultural and various open space/recreational uses. Land south of Johnson Lane is zoned AP (Agricultural Preservation District). This zoning district employs the “sliding scale” approach to allow limited non-agricultural development. The minimum lot size for a single-family residential lot is two acres. Most of Bethel Township (Lebanon) is proposed for Agricultural use in this
area, and would therefore be compatible with the zoning on the Berks County side. The exception occurs in the area between I-78 and Shirksville Road, where a portion in the Township between I-78 and U.S. 22) is proposed for Commercial use and the remaining area is proposed for Rural (low density) residential use.

The zoning classification in Tulpehocken Township adjacent to Bethel Township is EAP (Effective Agricultural Preservation District). This zoning district also employs the "sliding scale" approach to allow minimal new residential development. New residential lots are limited to a maximum of 1.5 acres in size. All of this portion of Bethel Township is proposed for Agricultural land use.

Jackson Township abuts the entire southeastern boundary of Bethel Township. Zoning in Jackson Township is A-1 (Low Intensity Agricultural). In this zoning district, non-intensive agricultural uses and single-family residential uses are allowed. Single-family residential uses are allowed on one-acre lots. Virtually all of the adjacent portions of Bethel Township are proposed for Agricultural use. A small portion of the Township north of Prescott Road is proposed for Rural development. As proposed, the future intensity of uses on the Bethel Township side of the boundary with Jackson Township will be less that what is currently allowed in Jackson Township.

North Lebanon Township abuts the entire southern boundary of Bethel Township. Adjacent zoning classifications in North Lebanon Township include A (Agricultural District) and RR (Rural Residential District). The RR districts are located (1) along Prescott Road and (2) in the developed area south of Hefflefinger Road. Permitted uses in the RR District include non-intensive agriculture and single-family residential development. Single-family residential minimum lot sizes are one acre (without public water or sewer) and 20,000 SF (with public water or public sewer). The remaining (Agricultural) portions of North Lebanon Township adjacent to Bethel permit both non-intensive and intensive agricultural operations and along limited residential development using the "sliding scale" approach. Proposed land use in Bethel Township includes Agricultural and Rural uses. The area of Bethel Township proposed for Rural uses is located between Prescott and Mt. Zion Roads. The remaining area is proposed for Agricultural use.

Swatara Township borders Bethel Township to the west. All of the adjacent portions of Swatara Township from a point north of Mountain Drive south to the Township line are zoned A (Agricultural District). The Agricultural District in Swatara Township allows non-intensive and intensive agricultural operations, as well as limited residential development using the "sliding scale" approach. Those residential lots allowed to be subdivided require a minimum one-acre lot size. The Monroe Valley area — generally located between
Monroe Valley and Fairway Drives – is zoned R-1 (Low Density Residential District). In the R-1 District, single-family residential development is permitted with densities ranging from one dwelling per acre (with no public water or sewer) to four dwellings per acre (with both public water and sewer). The remaining adjacent portions of Swatara Township are zoned RF (Residential Forest District). Low density residential and limited recreational/open space uses are permitted in this district. Minimum lot sizes for single family residential uses are two acres (one acre with public water or public sewer). Larger minimum lot sizes are required in areas of steeper slope). Proposed land use in Bethel Township include Forest Conservation from the northern Township boundary south to Deitzler Lane; Rural from Deitzler Lane south to just north of Mountain Drive; Agricultural south to I-78; Low Density Residential from I-78 south to Shirksville Road (with a small portion of Commercial use proposed south of U.S. 22); and then Agricultural again – south to the Township line. The only proposed areas of potential conflict are between I-78 and Shirksville Road – where more intensive development is proposed in Bethel Township than is allowed in Swatara Township.

**County Comprehensive Planning**

A review of the Future Land Use Map for Lebanon County, which is part of the *Interim Plan (1987)*, finds Bethel Township generally developing in a manner consistent with the Plan. The only deviations appear in the land use designations (1) along PA Route 343 south of Fredericksburg and (2) south of U.S. 22 in the eastern portion of the Township. In both instances, the County Plan proposes Agricultural/Sporadic Residential Development. The area south of Fredericksburg is proposed for more intensive residential development (due to the availability of public utilities) and the area in the east (south of U.S. 22) is proposed for slightly more intense development. The fact that this area links several arterial and collector roads and includes an interchange of I-78 only serves to increase development pressures on this area for residential, commercial and industrial uses.

**PROPOSED HOUSING PLAN**

The population of the Township is projected to continue to increase into the foreseeable future. In order to accommodate this increased population, additional housing units will need to be provided. There will be a need for a mix of types of housing units so that individuals of all age groups, family size and economic level have equal opportunities to reside in Bethel Township.
In order to provide for their fair share of affordable and specialized housing opportunities within the county, all municipalities within the county should build into their land use regulatory process a system that ensures that a fixed portion of all residential development will be set aside for the affordable housing needs of the moderate, low, and very low income households and the specialized housing needs of elderly and disabled individuals anticipated to reside within that municipality. This can be done most efficiently by incorporating inclusionary provisions within the municipal zoning regulations throughout the county that provide realistic incentives for developers to set aside a certain percentage of units in their proposed development for affordable and specialized housing needs. These incentives can take the form of density bonuses, flexible development and building standards, fast tracking the review process, and waivers and reductions in development fees. These incentives could also include financial assistance from county, state and federal governments to help subsidize the costs of providing affordable and specialized housing.

Inclusionary zoning would not only allow each municipality to meet its fair share obligations, but it would enable a municipality to do so in a way that results in diverse and integrated communities that provide housing opportunities for persons from all generations, cultures, and economic backgrounds.

The existing Bethel Township Zoning Ordinance currently provides many of the specific detailed regulations to support the accomplishment of this Comprehensive Plan's stated housing goals. Numerous dwelling types are currently permitted in the various zoning districts, including single-family detached dwellings, single-family semi-detached dwellings, two family dwellings, attached dwellings (townhouses), garden apartments and conversion apartments, and mobile home parks. The existing Low Density Residential (R-1) zoning district allows single-family detached dwellings by right on lots of 10,000 square feet with public sewer service. The existing High Density Residential (R-2) zoning district allows single-family detached at a density of 5.4 units per acre when public water and sewer service is provided. With public water and sewer service, the following types (and densities) of residential units are also permitted: semi-detached (7.2 units per acre) and multi-family units (8.0 units per acre). Mobile home parks are also permitted by special exception, limited to a maximum density of 5 units per acre. Cluster/conservation subdivision designs should also be permitted in these areas to allow increased design flexibility, while still maintaining the targeted residential densities.

The comprehensive update of the Bethel Township Zoning Ordinance that will be initiated after adoption of this Comprehensive Plan will include an examination of additional techniques to promote the goals and objectives of both the Township's and the County's
plans. As part of the zoning ordinance update process, zoning provisions should be examined relative to providing incentives for developers to set aside a certain percentage of units in their proposed development(s) for affordable and specialized housing needs.

**PROPOSED TRANSPORTATION PLAN**

To accomplish the Plan's major goals and objectives, a system of road classifications by functional purpose was established as discussed in the Transportation Facilities section of Chapter 3. In simple form, there are four classifications of roadways in the Township: arterials, major collectors, minor collectors and local access roads. Each roadway has a function of moving traffic - the arterial performs this on an interregional basis, collector roads serve as links from the local roads to the regional system and local roads provide direct service between residential and other developed areas and the collector system. The proposed Transportation Plan does not alter, to any great extent, the existing circulation pattern in Bethel Township, but it does, to some extent, expand on it. The traffic carrying capacity of the major roads in the Township should be protected. Failure to control development along the indicated arterials and collector roads can seriously impair their efficiency and create hazardous driving conditions.

It is proposed that all the existing classifications of roadways in the Township be continued into the future. The proposed roadway classifications are as follows:

**Interstates/Other Expressways**

Interstate 78 (I-78), with two interchanges located in the Township and Interstate 81 (I-81), which is accessible from I-78 or from Main Street / Lickdale Road at Lickdale.

**Rural Minor Arterials**

U.S. 22 (Allentown Boulevard)

**Rural Major Collectors**

PA 343 (Pine Grove Street, Pine Grove Road, Legionnaire Drive)  
SR 1007 (Pine Grove Street between US 22 and I-78)  
SR 1008 (Freeport Road, Stracks Dam Road)  
SR 1011 (Mt. Zion Road south of Stracks Dam Road)  
SR 1020 (Main Street, Lickdale Road)
**Rural Minor Collectors**

SR 1011 (Mt. Zion Road north of Stracks Dam Road)
SR 1014 (Greble Road west of PA 343)

**Rural Local Roads**

All other State and Township roads are classified as local roads.

**Transportation Plan Proposals**

The overall goal of the Transportation Plan is to insure that existing and future development in the Township is served by transportation facilities adequate to meet the Township's needs. Several means can be employed to accomplish the major transportation plan goals and objectives. Given the high cost of new construction and the limited sources of outside funding available, it would appear that a combined program of (1) upgrading of existing roadways and (2) limited new construction would be the most feasible means of ensuring an adequate road system. A combined program would also allow a time-phased approach whereby individual segments could be upgraded/constructed with planned financing.

Bethel Township should continue to upgrade its transportation system. Road improvements may be made at the Township level where appropriate. Minor improvements related to maintenance should be done on a continual basis. These tasks might include clearing right-of-ways and sight lines at intersections, cleaning stormwater drains, removing loose gravel, trimming unsafe trees, and repairing surface and shoulder problems.

The Township should begin to identify where and when new roads or alignments must occur, and begin to acquire the necessary rights-of-way. Future road improvement locations may be identified on an Official Map. Township ordinances should include standards for road design, installation, and maintenance. Provisions of the existing Township Subdivision and Land Development Ordinance dictate that the Township not accept roads for dedication unless they meet the required standards. The Township has the authority to close a road and remove it from public access if it is unsafe. Sub-standard roads should be abandoned to avoid accidents and Township liability. The adequacy of the road network should be reviewed annually, which should lead to a periodic revision of the improvement plan.
New developments should be required by ordinance to perform traffic impact studies and limit dwelling units to a number that will not exceed the capacity of the roads that serve them - developments must be thought of as "traffic sheds" which should not produce flows in excess of the receiving "traffic stream". One alternative to developers proposing more units than the level of service would dictate could be to offer to make the required road improvements to raise the traffic area's capacity.

The proposed Land Use Plan proposes that future development in the Township be located adjacent to or easily accessible to the major traffic routes in the Township. Future development adjacent to the major traffic routes in the Township should also be required to provide adequate turning lanes and to restrict driveway movements to minimize conflicts with through traffic. Similarly, any new streets constructed as part of new residential or other development should be designed in accordance with roadway standards required by existing Township and State regulations. Care should be taken to insure that conflicts from on street parking, multiple openings onto roadways, etc., are kept to a minimum. The proposed Zoning Ordinance provisions covering new farm-related businesses in the agricultural areas of the Township are anticipated to stringently regulate the size and locations of such uses to minimize impacts on the Township's existing rural road network. Major improvements must be coordinated at the County and State levels. Such projects can only be accomplished through extensive cooperation among local, county, state and Federal officials. As previously mentioned in Chapter 3, the only project located in Bethel Township that is included in the current Twelve-Year Program is a bridge replacement on Greble Road (over Elizabeth Run).

Other identified traffic/transportation problem areas and/or areas of concern that require further study, as identified in Chapter 3, include the following:

- Speeding issues related to the following roads:
  - U.S. 22 – particularly (1) near the high school and (2) east of Legionnaire Drive
  - PA Route 343
  - North Center Street
  - Main Street
  - Elk and Deer Drives
  - Mt. Zion Road near Prescott Drive
  - Mt. Zion Road near Beagle Road
Improvements to storm drainage facilities related to the following roads:

- Greble Road
- Union Road, between Beagle Road and Swatara Creek
- Short Road

- Truck traffic on certain roads in the Township
- Pavement markings on Blue Mountain Road
- Traffic light at Pine Grove Street and Main Street
- Stop sign on North Center Street at top of hill
- Stop sign at Center Street and Main Street
- Parking problems on the square in Fredericksburg
- Road and roadside maintenance
- Several Township roads and portions of other Township roads are unimproved.

As was discussed in Chapter 3, the Township must work closely with Penn DOT to address the above-listed projects, as many involve State roads.

Other Transportation Facilities

The limited amount of public transportation services and regional rail transportation facilities currently made available to Township residents should, at a minimum, be maintained. Any improvements and/or expansions in such services would, however, provide better opportunities for Township residents to avail themselves of such services - particularly for the residents of the Township who do not operate personal automobiles. The Township should continue to support the County of Lebanon Transit (COLT) Authority's bus service – both the continuance of existing limited service and future expansion of such service.
The Township's subdivision and land development ordinance should be updated as required to provide for alternate transportation system management strategies where appropriate, such as van/car pooling, park-and-ride lots, etc.

Air transportation facilities will continue to play a minimal role in serving the needs of Bethel Township residents. While the Farmers Pride Airport, a General Service, public airport, with sod runway, is located in the Township, it only offers fuel service and flight instruction. There are no airports located in the County with regularly scheduled air service. The nearest such facilities are located in Reading, Lancaster and Harrisburg. Township residents will have to travel outside of the Township to avail themselves of these services.

**PROPOSED COMMUNITY FACILITIES AND UTILITIES PLAN**

Services and facilities must be provided according to the existing and projected needs of a community. It is important that these facilities be readily available. Therefore, suitable land that is conveniently located should be reserved for those purposes, and a capital budget should be established so that such facilities can be provided without incurring an excessive bonded indebtedness.

**Open Space, Parks and Recreation**

When compared to nationally recognized population-based standards for recreational land, it becomes apparent that Bethel Township has a deficit in publicly-owned parkland - including facilities at the sub-neighborhood, neighborhood and community levels. While Bethel Township residents have access to a variety of facilities owned by public and private agencies in and around the Township, facilities that are owned and/or operated directly by the Township are limited. Private facilities supplement available public facilities and often require a fee to participate.

Limited active recreational facilities, either public or private, are currently available to Bethel Township residents in and around the Township. Facilities are associated with the Northern Lebanon School District buildings located in the Township- including athletic fields and courts at the Middle School/High School Campus and at Fredericksburg Elementary School.

There are four golf courses located in the Township - Monroe Valley, Pine Meadows, Freeport Mills and Blue Mountain. Lions Park, owned by the Fredericksburg Lions Club,
offers picnic facilities and a swimming pool. Fredericksburg Fireman’s Park, Lake Strausse, the American Legion ball field, Camp Central, seasonal cottages, sportsmen’s clubs and camps, and state-owned lands. A large amount of land is in State Game Lands and in the Swatara State Park.

As additional residential areas are developed, neighborhood and sub-neighborhood recreation areas/facilities should be required to be provided as part of the subdivision/land development approval process. The Township also should continue to work with the Northern Lebanon School District to maximize off-hours use of the District’s facilities that are located in the Township.

The Township should consider the preparation of a Comprehensive Open Space, Park and Recreation Plan for the Township to define needs and recommend programs, acquisition and construction, and to legitimize mandatory dedication of recreation land (or collection of fees in lieu of dedication) as part of future development proposals.

**Police Protection**

Based on accepted standards, the population projections for the Township indicate that additional full-time police officers could be required in the future. The Township Supervisors should periodically review the staffing needs of the existing Township police force.

**Fire Protection**

Based on current fire protection standards, the fire protection facilities provided by the three fire companies located in the Township (Fredericksburg Fire Company, Camp Strausse Fire Company and Mt. Zion Fire Company), supported by various fire companies located outside the Township, appear adequate for existing as well as expected needs during the planning period.

All fire calls are dispatched by Lebanon County EMA to appropriate fire departments when needed.

**Ambulance Services**

As is the case with fire protection, ambulance services also appear adequate to meet the Township’s existing and future needs into the foreseeable future.
School Facilities

The entire area of Bethel Township is served by the Northern Lebanon School District, which serves school-age children from kindergarten (K) through grade 12. Meeting the educational needs of the Township falls under the sole jurisdiction of the School District. The District is nearing the start of an improvements project at the Fredericksburg Elementary School, and has also approved renovation plans for the Middle School/High School complex.

Municipal Administrative Space

The Township is fortunate to have a structure that was constructed specifically for use as a municipal building. As the population of the Township continues to grow, and as additional municipal services are made available to Township residents, additional space may be required for administration and equipment.

Sanitary Sewerage Service

The Fredericksburg Sewer and Water Authority (FSWA) provides public sewer service to the majority of high-density residential and non-residential uses in Bethel Township. Areas of the Township proposed for future, dense development have been located so that they can be served by extensions to the existing Authority system.

The Township’s recently updated Act 537 Official Sewage Facilities Plan proposes several new projects related to public sewer service in Bethel Township. They include (1) the expansion of the existing FSWA wastewater treatment facility from 150,000 gallons per day (gpd) permitted capacity to 250,000 gpd, (2) the extension of sewers to the Elk Drive, Deer Drive and Greble Road area south of Fredericksburg, and (3) the construction of a new wastewater treatment facility and collection system to serve the Monroe Valley/Camp Strausse area, as well as adjacent portions of Swatara Township.

The portions of the Township projected to remain unsewered must also be reviewed in terms of their adequacy for continued use of on-lot sewage disposal methods. The Township should continue to evaluate existing sewage facilities and the Act 537 Plan to address needs as they arise. The Township's Subdivision/Land Development Ordinance should also be reviewed to determine if revisions to the Ordinance must be made to ensure the continued reliance on such sewage disposal facilities.
Stormwater Drainage

As development occurs within Bethel Township and areas adjacent to it, problems resulting from stormwater runoff will increase. As Act 167 Watershed Storm Water Management Plans are prepared and adopted in Lebanon County, the stormwater management provisions of the Bethel Township Subdivision and Land Development Ordinance will need to be amended to reflect the design requirements of those studies.

PROPOSED WATER SUPPLY PLAN

The Water Supply Plan proposes (1) extension of public water service by the Fredericksburg Sewer and Water Authority (FSWA) to the areas of the Township proposed for future, dense development and (2) the continued reliance upon on-site water supply by residents and businesses in the remaining portions of the Township.

The bedrock formations in the Township (including areas of limestone) are reasonably reliable for water quantity sources, but are moderately susceptible to contaminants and often produce hard and odorous conditions. Water yields range from a minimum of 1 gallon per minute (gpm) to a maximum over 500 gpm. The median domestic yield is 18.25 gpm. This is well above the minimum flow required for domestic supplies. Based on this underlying geology and low to moderate rate of growth projected for the Township, groundwater source development is probably adequate for drinking water supply in the future. The feasibility of expanding public water service from outside the Township could be examined in the future if needs arise.

The ease with which limestone dissolves creates a sub-surface condition that has considerable implications for water supply planning. Since ground water tends to flow in solution channels formed in the bedrock, this tendency has a bearing upon two interrelated aspects of man's use of the land—the location of wells and sewage disposal. In locating a well, an underground channel must be struck or little water is likely to be obtained. The great difference in the size of the solution channels causes a correspondingly large variance in the yields of wells in such an area. These same solution channels pose a definite pollution problem in underground water sources. Moving freely in solution channels, the ground water has little chance of being filtered of impurities. If any pollution of the water in the channels should occur through the seepage of sanitary wastes from septic tank absorption fields, cesspools, or other sources of contamination (i.e. chemical spills, gas/oil tank leaks), its effects may be felt many miles from the source of pollution.
Polluted solution channels can cause a serious problem in the form of contamination of springs and surface streams.

In order to protect the Township's groundwater resources, groundwater quality should be continually monitored and needs addressed as they arise. Recharge area preservation and creation should be promoted through the Township's zoning and subdivision/land development ordinances. Protection from groundwater degradation also can be promoted by the implementation and periodic evaluation of the Township's Act 537 (Sewage Facilities) Plan. Separation of major industrial development from private residential wells should be encouraged to minimize aquifer competition.

It must be recognized that lawful activities such as extraction of minerals may impact water supply sources in the Township. Such activities are governed by statutes regulating mineral extraction that specify replacement and restoration of water supplies affected by such activities. In addition, commercial agricultural production may also impact water supply sources in the Township.
Numerous respondents to the Township Residents' Survey indicated their desire that the Township's "Rural/Country Lifestyle" be maintained. One way of maintaining that lifestyle is through the protection and preservation of the natural and historic resources that have helped to define Bethel Township.

Steps should be taken to ensure that the villages of Fredericksburg and Mt. Zion, as well as the rural hamlets of Freeport Mills, Greble, Hamlin and Shirksville are maintained, as well as the numerous historic farmsteads that dot the Township's landscape. Such steps are introduced here and can be further refined in the Township's Zoning and Subdivision and Land Development Ordinances. The first steps toward preserving the Township's historic resources are related to (1) identification and (2) education.

Bethel Township is rich in historic resources. Various studies over the years have identified numerous buildings and sites in the Township as having historic and/or architectural significance. The Township should work with the Lebanon County Planning Department, the Lebanon County Historical Society and other historic preservation groups to prepare an updated survey of the Township's historic resources. The Township should also strive to educate both existing and new residents of the agricultural history of the Township.

Regulatory provisions that might be considered as implementation steps to the Comprehensive Plan include the following:

- Historic overlay (zoning) district
- Zoning bonuses for the preservation of specific historical structures and/or features
- Demolition ordinance
- Ordinance provisions for the protection of landscape features such as scenic vistas or historic roads
- An ordinance that establishes a formal Historic District(s) and Historical and Architectural Review Board
An updated inventory of historic sites and districts will provide a foundation to facilitate the process of developing further historical provisions within the Township. By incorporating historic preservation within the Township’s ordinances, the Township will be in a better position to balance the preservation of its historic resources with future development.

Various funding sources are available (through the Pennsylvania Historical and Museum Commission and others) for grant money to assist municipalities with historic preservation studies and plans, as well as money available for rehabilitating and restoring historic properties. Tax incentives may also be available for preservation efforts.

Equally important to the Township’s past history and future development are its natural resources. As described in Chapter 3, Bethel Township contains prime agricultural soils, streams and flood prone areas, wetlands, steep slopes, woodlands, and hazardous bedrock geology.

As can be seen from the Agricultural Soils Map, roughly two-thirds of Bethel Township’s land area is classified as either Prime Farmland Soil by the USDA or as Prime Agricultural Land (according to the MPC). One of the recently enacted provisions of the MPC requires that zoning ordinances “protect” prime agricultural land. The preservation of prime agricultural land (and the Township’s agricultural heritage) is one of this Comprehensive Plan’s primary goals. The Future Land Use Plan proposes changes to the existing Township Zoning Ordinance provisions to make it easier for the existing farming community to stay in agriculture – and thereby preserving both the Township’s farmland and the Township’s farmers.

Areas that are prone to flooding should not be developed for residential, commercial or industrial purposes. This can be achieved through the strict enforcement of the floodplain district regulations in the Township’s Zoning ordinance. On-site sewage disposal systems should not be located within the areas subject to flooding because of the danger of contamination of the stream and the groundwater due to the proximity of the stream and the presence of a high water table.

Stormwater runoff may erode stream banks and channels. If sedimentation is increased, the streambed may be filled, causing floodwaters to cover a larger area, stream meandering may be caused, aquatic life in the stream may be choked, and the esthetic value of the stream seriously impaired. Stormwater management provisions in the Township’s Subdivision and Land Development Ordinance should be reviewed and updated as necessary to achieve these desired results.
It is best if the areas on either side of streams are (1) not impervious (such as paved) surfaces and (2) not farmed right up to the stream bank. As surface runoff of water moves toward streams, water can be absorbed into the ground if the water does not move over impervious surfaces, thus reduce stormwater flow and the potential for stream degradation from such contaminants as motor oils, gasoline, etc. In agricultural areas, a streamside (riparian) buffer should be maintained to reduce the runoff of nutrients from agricultural operations. These streamside restrictions can be enforced through provisions in the Township’s zoning and subdivision/land development ordinances.

A significant portion of the total land area of Bethel Township is wooded. Most of the Township’s woodlands are located on the mountains in the north and in the numerous stream valleys in the Township. Wooded areas have a recreational potential, whether for hunting, fishing, hiking or similar activities. When areas are left wooded the quantity and quality of ground water can be better maintained than if the woods are removed because the natural cover allows for infiltration of rainfall into the ground water system.

While the Township’s existing ordinances should be reviewed to identify additional measures that may be needed to further protect its natural and historic resources, the requirements of Township ordinances, however, may not exceed those requirements imposed under the following State Legislation:

- Act of May 31, 1945 (P.L.1198, No.418), known as the "Surface Mining Conservation and Reclamation Act";
- Act of April 27, 1966 (1st SP.SESSION., P.L.31, No.1), known as "The Bituminous Mine Subsidence and Land Conservation Act";
- Act of September 24, 1968 (P.L.1040, No.318), known as the "Coal Refuse Disposal Control Act";
- Act of December 19, 1984 (P.L.1140, No.223), known as the "Oil and Gas Act";
- Act of December 19, 1984 (P.L.1093, No.219), known as the "Noncoal Surface Mining Conservation and Reclamation Act";
- Act of June 30, 1981 (P.L.128, No.43), known as the "Agricultural Area Security Law";

- Act of June 10, 1982 (P.L.454, No.133), entitled "An Act Protecting Agricultural Operations from Nuisance Suits and Ordinances Under Certain Circumstances"; and

- Act of May 20, 1993 (P.L.12, No.6), known as the "Nutrient Management Act".
CHAPTER 5
IMPLEMENTATION

The proposed goals and policies for the future development of Bethel Township have previously been outlined. It is now imperative that methods of effectuating this program be considered. Examination of the community goals makes it apparent that the Township should consider a program of effectuation from two viewpoints. The first should include a program of carrying out the local desires and goals at the municipal level, and should comprise those desirable elements that will not adversely affect neighboring communities.

The second approach involves putting elements of the plan into effect from a broader regional viewpoint. Many long-range goals and policies involve not only the Township but adjacent and nearby municipalities, the School District, the County and the State as well. Bethel Township can carry out those programs which affect the local community only, but it must participate with larger government bodies in order to gain the necessary impetus required to carry out an overall program which would best suit the region as a whole.

Short- and Long-Range Plan Implementation Steps

One of the required elements of a municipal Comprehensive Plan is a discussion of short- and long-range plan implementation strategies, which may include "... (1) implications for capital improvements programming, (2) new or updated development regulations, and (3) the identification of public funds potentially available."

Short-Range Implementation Techniques

For the purposes of the Bethel Township Comprehensive Plan, recommended implementation actions proposed in the five (5) years following plan adoption have been designated short-range implementation techniques. They include the following proposals:

Prepare and enact amendments to the Zoning Ordinance and Map to implement stated land use objectives. The proposed changes include replacing the existing Agricultural District with a new (more stringent) Agricultural District, adding a Rural (Rural Residential) District and a Forest Conservation District. The Township should also consider the development of cluster/open space zoning provisions to protect natural resources, provide common open space, and enhance community cohesion in new developments. Administrative provisions of the
Ordinance will also need to be reviewed for conformance with the latest amendments to the Municipalities Planning Code.

Related Plan Goals and Objectives include the following:

- **Enact and enforce zoning controls that will encourage the continuance of agricultural activities.**

- **Discourage the use of rural areas as the dumping grounds for land uses that are not wanted elsewhere.**

- **Strive to maintain or raise residential values by preventing the introduction of incompatible uses, by requiring good standards in new residential development, and by preserving, protecting and using natural beauty whenever possible.**

- **Plan the locations of commercial areas so that they are convenient to residential areas and provide sites that have easy access for customers, employees and suppliers.**

- **Limit the locations of commercial development to sites near to major traffic thoroughfares, while at the same time separating commercial traffic from through traffic.**

- **Through zoning, protect future industrial areas from encroachment by other land uses during the period of time preceding their development into industrial sites.**

- **Enact and enforce regulations that will result in new industries to be developed to modern standards with adequate sites that will allow for future expansion, adequate off-street parking and loading facilities, and adequate buffer areas where adjacent to other uses.**

- **Encourage a wide range of industry types in order to assure a more balanced future economic base.**

- **Seek to minimize any adverse effects of industrial development through the use of design and performance standards.**

Specific issues to be addressed as part of the comprehensive review and update of the Township’s Zoning Ordinance (and Map) include the following:

- **Encourage the preservation of floodplains and wetlands along streambeds, woodlands and steep slope areas by the use of restrictive zoning measures such as floodplain controls and conservation/greenways zoning.**
- Encourage the retention of farmland and/or other open space uses in order to help meet the requirements of environmental health.

- Preserve the natural features of the Township by encouraging a low order of development in the more environmentally sensitive portions of the Township.

- Limit the number of business locations in the Township, giving primary consideration to established commercial locations and the need to protect existing residential and agricultural areas.

- Plan the location of industrial areas so that they will be easily accessible to the labor supply, raw materials, markets and related activities. However, the industrial areas should not be located within residential areas, or where traffic must pass through solely residential roadways to gain access to the industry.

The Township Zoning Map is proposed to be revised to add two new zoning districts – Forest Conservation and Rural (or Rural Residential), as well as to modify many of the existing zoning district boundaries to reflect the land use proposals shown on the Future Land Use Map. The zoning districts which allow more intensive development will be located in and around Fredericksburg – in those portions of the Township where public water and public sewer service are available, or may be available in the future.

The dominant natural feature of the Township – prime agricultural land – will be, for the most part, located in the new Agricultural zoning district. The primary purpose of the revised Agricultural District will be to minimize the amount of future residential and non-farm related development in those portions of the Township best suited for agricultural activities.

The Ordinance update should also consider allowing increased opportunities for the location of on-farm businesses - necessary to supplement farm incomes and keep the agricultural community economically viable. Such on-farm businesses would be subject to size and locational restrictions, in order to minimize any adverse impact on (1) the most productive soils, (2) the existing rural roadway network and (3) the visual "landscape" of the vast majority of the Township.

Low density (rural) residential development will be directed to the Monroe Valley, Greble and Mt. Zion areas, as well as to the Hamlin and Blue Mountain View areas adjacent to the I-78/US 22 corridor.
Most residential, commercial and industrial/limited manufacturing activities would be funneled to other designated portions of the township – primarily (1) around Fredericksburg and (2) in the I-78/US 22 corridor.

The proposed revisions to the agricultural zoning district should enhance the meeting of the needs of the agricultural community. The funneling of most future development to the Fredericksburg area, where public facilities are available, should also encourage the location of new community facilities – particularly community recreational opportunities within these areas. The residential and zoning provisions should be reviewed/revised to include alternative residential development options, such as cluster, traditional village and PRD, which in addition to protecting established values, permit experimentation in housing types, construction methods, new materials and arrangement of units.

The number of non-residential uses permitted in the proposed Rural (RR), and existing Low Density (R-1) and High Density (R-2) Residential districts will be minimized in favor of mixed uses in the Retail Business (C-1) district and commercial/industrial uses in the Highway Commercial (C-2) and Manufacturing (M) districts.

The new Forest Conservation district would severely limit the amount of development in the northern portion of the Township. The existing Township zoning ordinance already has provisions regulating development activities in the 100-year floodplains of the Township. It is further proposed that “overlay” provisions be added to the zoning ordinance related to (1) development in steep slope areas and (2) riparian/stream side buffers and stream fencing.

The development-related provisions of the zoning ordinance also should be reviewed to insure that new development provides adequate off-street parking, pedestrian access, etc.

**Review and amend, as necessary, the Township’s Subdivision and Land Development Ordinance.** The existing Township Subdivision / Land Development ordinance should be reviewed and amended, if necessary, to address the Plan Goals identified in Chapter 2.
Related Plan Goals and Objectives include the following:

- **Assure that residential areas have sufficient space, privacy and convenience to meet accepted standards of community health, safety and welfare.**

- **Plan the locations of commercial areas so that they are convenient to residential areas and provide sites that have easy access for customers, employees and suppliers.**

- **Limit the locations of commercial development to sites near to major traffic thoroughfares, while at the same time separating commercial traffic from through traffic.**

Specific issues to be addressed as part of the comprehensive review and update of the Township’s Subdivision / Land Development and Stormwater Management Ordinances include the following:

- **Require that adequate off-street parking and loading areas be provided in all shopping developments and, to the extent possible, separate vehicular and pedestrian traffic.**

- **Enact and enforce regulations that will result in new industries to be developed to modern standards with adequate sites that will allow for future expansion, adequate off-street parking and loading facilities, and adequate buffer areas where adjacent to other uses.**

- **Seek to minimize any adverse effects of industrial development through the use of design and performance standards.**

The existing Township Subdivision and Land Development Ordinance should be reviewed to ensure that adequate, up-to-date development procedures are in effect to regulate new development in the Township.

**Facilitate the extension of public sewer and public water in a manner that is consistent with this Comprehensive Plan and with the existing and future needs identified by its Sewage Facilities Plan.** Such services are critical to the health, safety, and welfare of Township residents, particularly in areas that have experienced malfunctioning on-lot disposal systems and groundwater pollution. The provision of public sewer and public water services, and the increased Township requirements related to development with on-lot water supply and sewage disposal will also serve to protect surface water and groundwater from further degradation.
Related Plan Goals and Objectives include the following:

- Encourage the provision of public water service to serve existing and proposed growth areas within the Township.
- Discourage the extension of public water service outside the existing and proposed growth areas except to alleviate an otherwise existing public health problem.
- Encourage the provision of public sewerage service to adequately serve all existing and proposed growth areas within the Township.
- Discourage the extension of public sewerage service outside the existing and proposed growth areas except to alleviate an otherwise existing public health problem.

Specific issues to be addressed include the following:

- Enact regulations that ensure a safe and reliable water supply for all activities and development that occur outside of the existing and proposed growth areas within the Township.
- Enact regulations that ensure a safe and reliable wastewater disposal method for all activities and development that occur outside of the existing and proposed growth areas within the Township.

Promote the road improvements and evaluations recommended in Chapter 4.

Related Plan Goals and Objectives include the following:

- Facilitate the improvement of existing major roads to handle increased traffic. Since major roads receive state aid, the cooperation of the proper agencies must be solicited to ensure adequate and timely improvements to the Township's roads.
- Continue a program of widening and resurfacing local roads.
- Concentrate local roadway maintenance funds in areas of greatest need.
- Encourage and support the provision of a rural mass transit system in the county to meet the needs of the Township's transit-dependent citizens.
• Continually revise the Transportation Plan as new elements are proposed at Federal, State and County levels.

Specific issues to be addressed include the following:

• Require the addition of new streets to the road system to serve proposed new uses, while assuring that new streets and roadways fit into the existing system so that both will function effectively and safely.

• Discourage on-street parking on major roadways to prevent interference with traffic.

The Township's proposed Future Land Use Plan has proposed future growth to occur in the Fredericksburg area and in selected locations able to be served by the major (and for the most part) State controlled roadways in the Township. The proposals of the plan also call for revisions of the existing Township zoning and subdivision/land development ordinances to restrict the size and locations of new development so that it will not adversely impact the predominantly local, rural roads throughout the majority of the Township.

Prepare a Comprehensive Open Space, Park and Recreation Plan for the Township

Related Plan Goals and Objectives include the following:

• Develop public recreation facilities.

• Support the development of private and semi-private recreation facilities.

• Encourage the preservation of open areas that have a potential for natural recreational sites.

Specific issues to be addressed include the following:

• Assure the development of neighborhood playgrounds by requiring the dedication of land or payment of fees during the development of new residential subdivisions.

The Community Facilities and Utilities Plan has identified a need for additional recreational opportunities in the Township. The preparation of a detailed Comprehensive Open Space, Park and Recreation Plan would provide further
detail on the specific needs of Township residents and would also serve as the legal basis for the inclusion of mandatory recreation land dedication requirements in the Township’s Subdivision and Land Development ordinance.

Work with and support the School District and other Bethel Township area organizations to encourage adequate educational, recreational and cultural opportunities for Township residents.

The Northern Lebanon School District maintains several recreational facilities at its school locations in the Township. The Township should continue a dialog with the School District officials related to access to both the recreational facilities and the school buildings for after hour programs.

Investigate the preparation and distribution of a Township newsletter on a regular basis to disseminate information and increase public awareness. In order to meet the needs and expectations of their constituents, the Township’s municipal leaders need to know what those needs and expectations are. They should endeavor to regularly disseminate information to their residents - through newsletters, periodic mass mailings, etc. Efforts should also be made to solicit citizen input (through surveys, etc.) as well as citizen participation on advisory boards and committees.

The preceding actions should be considered short-range implementation measures since they represent solutions to problems identified in the context of the Plan. However, the successful completion of these implementation measures does not suggest that the Township is finished with its comprehensive planning process.
Long-Range Implementation Techniques

For the purposes of the Bethel Township Comprehensive Plan, the following recommended implementation actions proposed beyond five (5) years following plan adoption have been designated long-range implementation techniques. This designation, however, does not preclude them from being instituted prior to that timeframe.

1. Evaluate the adoption/amendment of building/housing codes to regulate new construction and ensure the maintenance/upkeep of existing structures – particularly in the historic villages.

The statewide building code, scheduled to go into effect in the near future, will add new regulations to the construction industry in the Township. The Township should also consider the adoption of a building maintenance code to ensure the maintenance/upkeep of existing structures – particularly in the historic villages.

2. Prepare a Capital Improvements Program to finance public improvements such as road construction, recreational facilities, etc.

The Township has an ongoing program for the repair and upgrading of its Township road network. The potential for other projects in the future – such as Township owned recreational facilities, etc., - would be well served by the establishment of a formal Capital Improvements Program by the Township. Another key component of development in the Township is that of public sewer and public water service. This service, however, is provided through a separate authority, and would therefore not be included in a Township Capital Improvements Program.

3. Reexamine the Comprehensive Plan in five years and make adjustments as necessary.

The Township’s Comprehensive Plan should be reviewed within five years, if not before, to gauge whether or not its proposals are being adequately accomplished. As part of this review, development over the five-year period should be reviewed to assess whether or not adjustments to the Zoning Map need to be made.

4. Prepare an Official Map.

The preferred location(s) of future roadways and other public lands serving Bethel Township can be identified and located on an official map of the Township. In addition, desired rights-of-way for existing streets are shown on an
Official Map. The purpose of the Official Map is to notify the property owners of the intention of the Township to acquire right-of-way(s) and/or land at some time in the future, thereby preventing the erecting of structures or other improvements in the future right-of-way or on parcels of land deemed necessary for future municipal use.

Participants

Putting the proposals of a comprehensive plan into effect requires the active participation of many agencies at different governmental levels. Aside from the purely local controls that are available, many departmental actions at county or state levels already are, or can be, interrelated with municipal action to implement local planning. Among others, the Northern Lebanon School District can become an effective planning ally, particularly in the provision of recreation facilities, since these are normally provided as part of any school plant and can readily be put to wider use outside of school hours. County and state health inspections and requirements can supplement municipal efforts, as can highway planning at both county and state levels. Highway planning and development is the one activity at higher governmental levels that ordinarily has the greatest impact on municipal development. Alterations in the regional and road network can vastly change the situation in the community. Equally important, the circulation problems that are already apparent in the Township can best be resolved in conjunction with the state and the county.

State and county programs for planning and development are becoming increasingly important in Pennsylvania. The various components of the Pennsylvania Department of Community and Economic Development, the Department of Transportation, the Department of Environmental Protection, the Natural Resources Conservation Service (Soil Conservation Service) and the Lebanon County Planning Department are effective planning allies for any municipality.

Semi-official bodies, such as the Industrial Development Authorities, Private Industry Councils, Transportation Authorities and Chambers of Commerce have specialized knowledge that they will willingly place at the disposal of the municipalities. Altogether, effective long-range planning depends not on purely regulatory measures and fiscal effort alone but on ingenuity applied to the solution of particular problems, especially on the merging of activities that form part of the planning concern of several municipal bodies.

In view of the suburbanization which has taken place in Bethel Township and in Central Pennsylvania in general, and of the future transportation movements foreseeable in the area, it would be fitting that local planning commissions meet together at intervals in an
effort to resolve common problems, particularly highway and circulation problems, which are basically regional in nature. In Pennsylvania, as almost everywhere else, intermunicipal cooperation represents an underutilized area of problem solving. This lack of cooperation is unfortunate.

The key players that should be involved in each of the major Plan categories are as follows:

**Future Land Use Plan:**

Supervisors, Planning Commission, Zoning Officer, Zoning Hearing Board, County Planning Department, Sewer and Water Authority, Business and Farming Communities

**Housing Plan:**

Supervisors, Lebanon County Association of Realtors, Countywide Public and Non-Profit Housing Agencies

**Transportation Plan**

Supervisors, Planning Commission, Township Roadmaster, Lebanon County Planning Department, County of Lebanon Transit Authority, Pennsylvania Department of Transportation, Adjacent Municipalities

**Community Facilities and Utilities Plan**

Supervisors, Planning Commission, Park and Recreation Committee, Sewer and Water Authority, Sewage Enforcement Officer, Greater Lebanon Refuse Authority, Lebanon County Planning Department, Lebanon County Conservation District, Northern Lebanon School District, Township and State Police, Local Fire and Ambulance Service Providers

**Water Supply Plan**

Supervisors, Planning Commission, Sewer and Water Authority, Sewage Enforcement Officer, Lebanon County Planning Department, Pennsylvania Department of Environmental Protection
Priorities

Some of the planning proposals presented assume a priority of implementation over the other proposals. This is the case for the following reasons:

- the severity of need (as it relates to community health and safety)
- the number of Township residents affected
- funding availability
- the degree to which a given proposal is interrelated to other proposals.
- the relative ease of implementation - both from a legislative and timing standpoint

The highest priority for completion of the proposed implementation actions is that of writing and enacting revisions to the Township Zoning Ordinance and Map to implement the land use (and related) proposals of this comprehensive plan.

Of secondary priority are (1) updates to the Subdivision and Land Development Ordinance, (2) preparation of a Comprehensive Open Space, Park and Recreation Plan, (3) dialog with the School District regarding after-hours use of District facilities for Community functions, (4) dissemination of Township news through a newsletter or other means, and (5) continued cooperative efforts with Penn DOT, COLT and adjacent townships related to road improvements and transit facilities in the Township and overall region.

Of lesser priority are (1) adoption of building maintenance code(s), (2) preparation of a Capital Improvements Program and (3) preparation of an Official Map,
Ordinances and Regulations

The concepts and purposes of the comprehensive plan are embodied in ordinances specifically enacted to implement it. Four basic ordinances are necessary to achieve safe, stable land development, according to the objectives established by the plan and by the planning enabling statutes.

In addition to these basic ordinances - zoning, subdivision and land development, stormwater management and official map - building and housing standards in code form are desirable to assure quality of construction in new buildings or, alternatively, to establish standards for occupancy and maintenance of existing buildings. Building standards and codes ensure structural soundness, proper plumbing and electrical installations, and reasonable safety from fire.

Zoning

Zoning is one means by which the uses of land are regulated. Underlying the concept of zoning is the idea that the health, safety and general welfare of property owners. The legal basis for zoning ordinances is found in the police power, which permits governmental units to enact laws to provide and protect the health, safety and general welfare of the community. However, this power can never be used to restrict the use of private property in such a way that the restrictions amount to an unconstitutional deprivation of property without due process of law.

The current Bethel Township Zoning Ordinance establishes the following zoning districts:

- Agricultural (A)
- Low Density Residential (R-1)
- High Density Residential (R-2)
- Retail Business (C-1)
- Highway Commercial (C-2)
- Manufacturing (M)
- Airport (AP)
- Floodplains (F-1, F-2, F-3)

The existing Zoning Map reflects the majority of the land use policies established in the 1973 Comprehensive Plan. However, numerous zoning map and text changes have been made subsequent to the adoption of the 1973 Plan. The Township's Zoning Ordinance contains some regulations that protect environmentally sensitive areas, such as
floodplains. Currently, however, the Township's Ordinance does not specifically address all the natural resources discussed in this plan.

With respect to sewage facilities planning, it is important to examine zoning provisions relating to wastewater facilities. Minimum lot size requirements and the location of planned growth areas are of particular importance. Minimum lot sizes must accurately reflect the area that is needed to ensure long-range suitability for on-lot sewage disposal. The Zoning Ordinance provides for increased minimum lot sizes where public sewer and water are not available. The proposed Future Land Use Plan and resultant revisions to the Township's Zoning Ordinance and Zoning Map will direct growth to areas that can be served by public wastewater facilities.

Revisions to the Bethel Township Zoning Ordinance subsequent to adoption of the updated Comprehensive Plan will include adjustments to the Zoning Map and additional and/or altered provisions based on the Comprehensive Plan proposals.

Proposed revisions to the Bethel Township Zoning Ordinance would result in the following zoning districts:

- Forest Conservation (FC)
- Agricultural (A)
- Rural Residential (RR)
- Low Density Residential (R-1)
- High Density Residential (R-2)
- Retail Business (C-1)
- Highway Commercial (C-2)
- Manufacturing (M)
- Airport (AP)
- Floodplains (F-1, F-2, F-3)

Potential zoning overlays could include the following:

- Historic Streetscape
- Steep Slope
- Streamside (Riparian) Buffer
Subdivision and Land Development

Subdivision and land development regulations are concerned with establishing locational controls that ensure sound community growth while at the same time safeguard the interest of all property owners. Such regulations can assure that the subdivision and development of land will create permanent assets for the Township. Since the subdivision and/or development of land is both a technical and a business venture, affecting not only the return to investors in land but also Township finances, consideration of subdivision and development proposals should be very thorough.

The Bethel Township Subdivision and Land Development Ordinance, as amended, governs subdivision and land development activity in the Township. The provisions of the ordinance are administered by the Township Board of Supervisors with advisory input from the Township Planning Commission and the Township Engineer. This ordinance should also be updated after adoption of the Comprehensive Plan to reflect the current situation.

The Bethel Township Subdivision and Land Development Ordinance contains regulations pertaining to sewage disposal methods. These regulations set forth standards for the approval of public sewer designs for projects within proximity to existing sewer lines, approval and maintenance of private community systems, as well as standards relating to demonstration of compliance with the Pennsylvania Sewage Facilities Act for individual on-lot sewage disposal systems. The Township's subdivision and land development ordinance also contains requirements for stormwater management. As Act 167 Watershed Storm Water Management Plans are prepared and adopted in Lebanon County, the stormwater management provisions of the Bethel Township Subdivision and Land Development Ordinance will need to be amended to reflect the design requirements of those studies.

Official Map

One of the proposals relating to future transportation facilities in the Township calls for the consideration of adoption of an Official Map. The legal basis for adoption of an Official Map lies in Act 247, as amended, the Pennsylvania Municipalities Planning Code. An Official Map would show the exact location of the lines of existing and proposed streets (after detailed surveys are conducted) for the whole of the Township. The purpose of an official map is to notify property owners in the Township of the intention of the Township to develop or expand the street network at some time in the future. Under the provisions of an official map ordinance, when a parcel of land identified for future street construction is proposed for development, the Township would have the opportunity to acquire that
portion of property needed for the future street, or to begin condemnation proceedings to acquire such property.

As mentioned, a detailed study and survey is required to identify the exact geographical limits of the proposed road network. This study/survey would require the expenditure of Township funds for technical assistance in its preparation.

**Building Controls**

Bethel Township has available to it numerous other powers that it may employ to implement the proposals of the Comprehensive Plan. Among these are building, housing and fire codes. A building code provides minimum requirements designed to protect life and health and yield a maximum of structural safety. Specific provisions apply to construction, alteration, equipment, use and occupancy, location, and maintenance of buildings and structures.

A housing code is concerned with individual structures and is one of only a few retroactive regulatory devices. It establishes minimum housing standards relating to health and safety. It does so by governing dwelling facilities (such as plumbing and heating systems), providing minimum standards relating to safe, sanitary maintenance of dwelling units, specifying the responsibilities of owners and occupants, and indicating minimum space, use and location requirements. Since a housing code provides a legal basis for condemnation, it is particularly useful in arresting or removing conditions of spot blight.

There are a number of standard or model building codes available. The two most commonly used are those prepared by the Building Officials Conference of America (BOCA) and the National Board of Fire Underwriters. As in the case of building codes, there are a number of standard or model housing codes available. These can be obtained from such sources as the American Public Health Association. The Statewide Building Code, which is anticipated to go into effect in 2002, may modify the Township's requirements related to code enforcement.

The adoption of building and/or housing codes by Bethel Township would, however, necessitate the hiring (or appointment) of a building/housing inspector for administration and enforcement of the codes. The inspector should be an individual with a technical background and familiarity with the building trades and one who could conceivably perform additional administrative functions for the Township.
**Capital Improvement Programming**

Capital improvement programming is the scheduling of public improvements over a given period of time. Scheduling is based on a series of priorities that are established according to need, desire and/or importance of the improvements, and on the present and anticipated ability of the community to pay for those improvements.

Capital improvement programming is the vital bridge between the Comprehensive Plan and the actual accomplishment of public improvements. Because the provisions, nature and location of public facilities exert a great influence on the pattern of community growth, a well conceived capital program is probably the most important plan implementation tool related to the construction of public infrastructure available to the community. While ordinances concerning zoning, subdivision and land development, and stormwater management are guides more for private development, a capital improvement program gives direction to public development.

**Continuing Planning**

Continuing review of specific problems and proposals forms an essential part of the planning process. Implementation of the policies contained in the Comprehensive Plan and related ordinances and regulations will demand subsequent and repeated re-evaluation, addition, and modification, as circumstances dictate. It is the responsibility of Township officials to see that the Township regulations continue to reflect established policy decisions. If particular problems cannot be solved in the light of such policies, changes or additions will be necessary in policy, and these will once again be subject to review by the public and adoption by the Board of Supervisors.
BETHEL TOWNSHIP
COMPREHENSIVE PLAN

Road Classifications
- Interstates/Other Expressways
- Rural Minor Arterials
- Rural Major Collectors
- Rural Minor Collectors
- Rural Locals

1998 Average Annual Daily Traffic Volumes

TRANSPORTATION FACILITIES
BETHEL TOWNSHIP
COMPREHENSIVE PLAN

Proposed Future Land Use
F - Floodplains
A - Agricultural
R - Rural
R-1 - Low Density Residential
R-2 - High Density Residential
C-1 - Retail Business District
C-2 - Highway Commercial
M - Manufacturing
AP - Airport District
FC - Forest Conservation

FUTURE LAND USE