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THE FOUR BOROUGHS
REGIONAL COMPREHENSIVE
PLAN
1975

MAPS AND ILLUSTRATIONS

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Map 2 - Existing Land Use
Map 3 - Future Land Use

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INTRODUCTION

In the summer of 1973, the Boroughs of Hulmeville, Langhorne, Langhorne Manor, and Penndel discussed and established a joint planning commission under the guidelines specified in Article XI of Act 247, the Pennsylvania Municipalities Planning Code as amended.

Many problems and pressures that are characteristic of this portion of Bucks County are common to each of the four municipalities and, since each community is generally urbanized to the same degree, it is recognized that the municipal officials must be concerned with guiding change in the uses of the land as well as with the development of land. It became evident that the limiting factors of municipal size and financial ability could be overcome by approaching a comprehensive planning program on a regional basis, and that solutions to common problems undertaken as concerted efforts would be much more effectual than individual attempts. Through a regional approach, methods of avoiding the duplication of expensive municipal facilities and services would be investigated. Likewise, a system of inter-municipal communications would help to prevent undesirable impacts of one borough's decisions on the other municipalities. The cost of professional services in the planning program would be more economical on a cooperative basis and, basically, there is much to be gained through the discussion of each municipality's experiences and from the other agencies of government which become involved. Thus, efficiency and economy are to be gained by providing a common framework for decision-making in each of the four municipalities.

The Four Boroughs Regional Planning Commission engaged the Staff of the Bucks County Planning Commission to serve as professional consultants and in March 1974 entered into an agreement with the Pennsylvania Department of Community Affairs which provided financial and professional aid in the drafting of this Comprehensive Plan.

Direction and Scope of the Comprehensive Plan

This Comprehensive Plan, by intent, is policy-oriented. That is, rather than undertaking a long and costly detailed analysis of existing conditions in each of the boroughs, a more appropriate plan for a region is one that focuses on the broad, fundamental issues which influence life in the four communities. The plan outlines the basic concerns identified by the regional group; considers the many interrelationships among the various factors; states a set of goals and policies to guide change and development within the region; and develops a general comprehensive plan to accomplish the stated regional goals.

The Four Boroughs Regional Planning Commission encourages each participating municipality to further employ this Comprehensive Plan as a guide in establishing local ordinances and programs in line with municipal and regional development goals.

The Planning Process

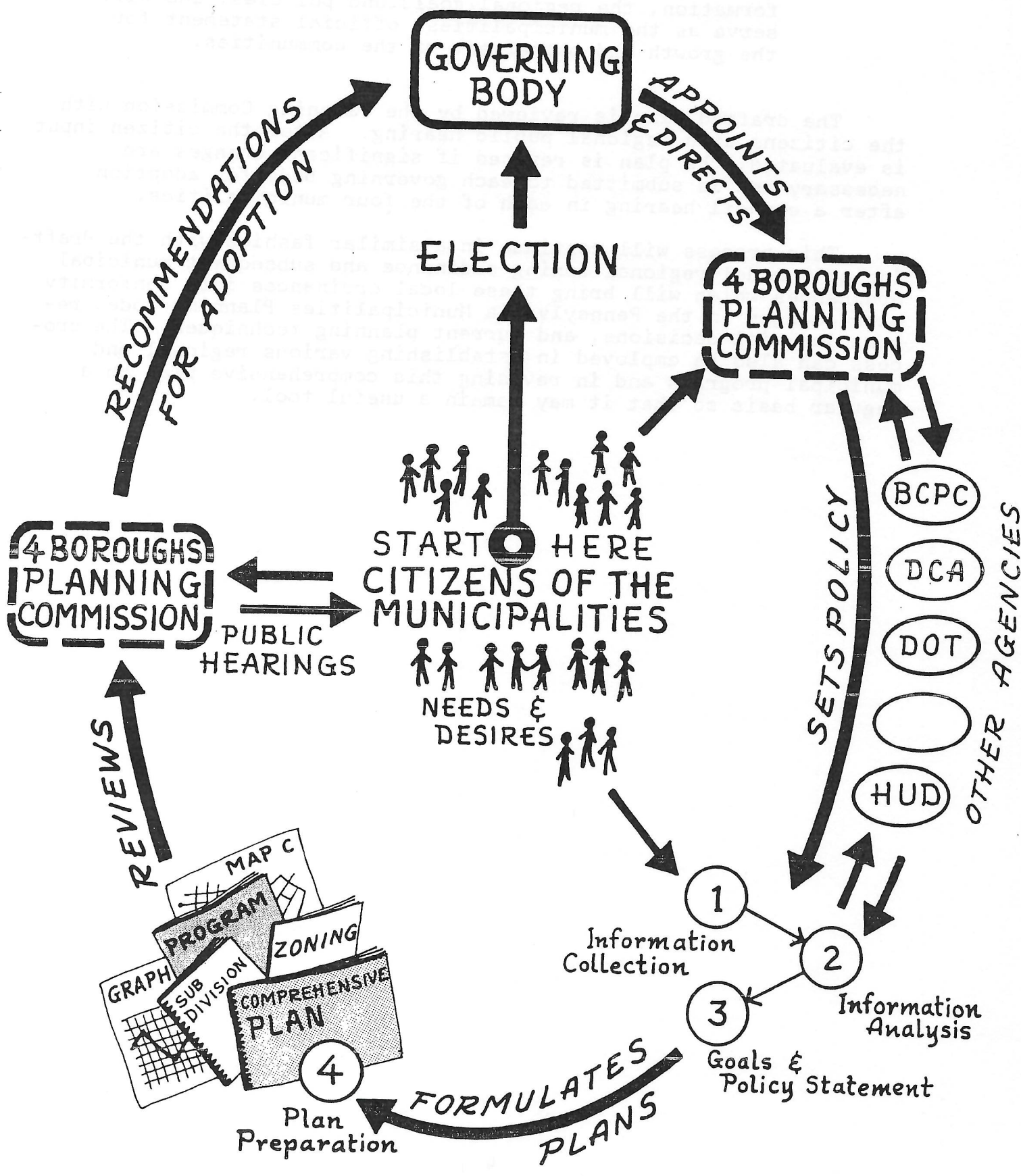
To be of any value, a comprehensive plan must reflect the needs and desires of the people within the region. By design, this planning program attempted to involve the residents of the municipalities at each stage of the program. As illustrated in the sketch, The Planning Cycle, the entire process begins with the electorate who express their wishes by electing municipal officials. These municipal officials appoint and give directions to interested people from their communities to serve on the Regional Planning Commission.

In addition to the staff of the Bucks County Planning Commission, other agencies and groups such as the Pennsylvania Department of Transportation, the Pennsylvania Department of Community Affairs, and surrounding townships were requested to give input into the Plan. Regular work sessions were noted in the local newspapers and all interested citizens were invited to attend and participate.

The Commission undertook four basic steps in drafting this Comprehensive Plan.

- Step 1. Collection of Information. The Planning Commission discussed in general terms the important issues of concern in the four boroughs. With these delineated, information was compiled which aided in understanding the conditions.
- Step 2. Analysis of Information. The implications of the facts and the interrelated nature of the primary issues were discussed and evaluated.
- Step 3. Statement of Goals and Policies. Goals were defined as general long-term objectives which will benefit the region as a whole by preserving the desirable aspects of the communities and by upgrading those aspects where improvement is needed. Policies are shorter-term targets whose accomplishment will aid in achieving the longer-term goals of the communities. These goals and policies are to serve as guidelines for local governing bodies in drafting ordinances and establishing programs. The goals and policies should also guide private decisions so that individual development plans do not conflict with community interests and plans.

PLANNING CYCLE



Step 4. Plan Preparation. The Comprehensive Plan was drafted as a document which outlines the collected information, the regional goals and policies, and will serve as the municipalities' official statement for the growth and betterment of the communities.

The drafted plan is reviewed by the Planning Commission with the citizens at a regional public hearing. After the citizen input is evaluated, the plan is revised if significant changes are necessary and is submitted to each governing body for adoption after a council hearing in each of the four municipalities.

This process will continue in a similar fashion with the drafting of a model regional zoning ordinance and subsequent municipal ordinances which will bring these local ordinances into conformity with changes in the Pennsylvania Municipalities Planning Code, recent judicial decisions, and current planning techniques. The process can also be employed in establishing various regional and municipal programs and in revising this comprehensive plan on a regular basis so that it may remain a useful tool.



REGIONAL GOALS AND POLICIES

The following are the goals and policies as determined by the Four Boroughs Regional Planning Commission which will serve as guidelines for both public and private decisions which affect the Region and the individual municipalities.

Regional Character

Goal - To avoid intense urbanization and to promote a general residential and historical character for the region. To guide the arrangement of activities to minimize the effects of incompatible land uses.

Policy

1. Develop and adopt a comprehensive plan for the region which will be employed to guide development and changing land uses in order to achieve the desired regional character.
2. Develop and adopt a set of ordinances for each borough which will aid in accomplishing the stated goals of the region.

Planning

Goal - To insure that the Boroughs have the tools to guide growth within the region and to deal with the surrounding developmental pressures. To encourage the coordination of all units and agencies of government and private interests for a more comprehensive approach to the collective problems of the region.

Policies

1. Employ the Regional Comprehensive Plan to guide growth and change.
2. Insure that each of the four boroughs has the necessary ordinances dealing with future development.
3. Promote the coordination of activities within the region. An initial step would be the establishment of a list of government agencies and private organizations which could comment or have input into major community decisions. As pertinent issues or proposals arise, these agencies and organizations should be notified with a short description of the issue or proposal for their considerations and comments.

Traffic and Transportation

Goal - To develop systems for unimpaired movement within and through the region which will relieve the present traffic situation and be compatible with future development plans.

Policies

1. Identify areas of present and probable future intense development, both within and surrounding the region, and use this information in a re-evaluation of intra-regional traffic systems.
2. Promote a regional by-pass system so that roadways designed for local use will be relieved of the inter-regional traffic.
3. Promote mass transportation as an alternative method of movement through the region. This may entail the upgrading of rail services (station improvements, provision of adequate parking, etc.) and the provision of feeder bus service which could connect the rail stations in off-peak hours with shopping centers and other high-intensity land uses in the surrounding areas.
4. Work with State, County, and other local agencies and governments, as well as soliciting the aid of our State legislators, to insure that the necessary transportation improvements are implemented.

Industrial Development

Goal - To identify the types and location of industrial activity that will not detract from the residential character of the region. Upgrade existing areas.

Policies

1. Upgrade the existing industrial site along Park Avenue and the Reading Rail line in Pennel Borough.
2. When industrial uses change or new industrial areas are established, insure that the development plans include adequate consideration of access, streets and curbing, parking, waste disposal, and other pertinent facilities.

Commercial Development

Goal - To avoid the inefficient scattering of commercial activity throughout the region and along the highways

and to identify local and regional centers for these activities. To improve and enhance existing commercial activity centers where necessary.

Policies

1. Identify specific areas, within or outside of the Boroughs, which serve as regional shopping and business centers.
2. Designate the types and the location of shops for neighborhood convenience shopping centers.

Housing

Goal - To maintain a balanced mix of housing types and costs that accommodate the needs of the residents in the region and to improve the conditions in deteriorating areas.

Policies

1. Establish regulations which will provide for newer types of housing, (e.g., cluster developments) which will provide for open space and aesthetic surroundings as well as needed housing.
2. Maintain and enhance dwellings of sound construction and good design.
3. Adopt up-to-date building codes which take advantage of the most modern building techniques and which may help lower construction costs.

Recreation and Open Space

Goal - To provide a variety of recreational facilities and areas, and to identify the few remaining natural areas in the region and preserve them as ecological zones.

Policies

1. Protect the natural water courses and floodplains throughout the region.
2. The remaining open land of the Langhorne Spring Water Company in Langhorne Manor is a distinctive regional feature. Protect this area as an ecological and wildlife preserve.

3. Work to establish a regional park that would include the athletic field in Pennel Borough and the adjoining open land.
4. Contact institutions in the general area to investigate the possibility of establishing a cooperative arrangement for the use of educational and recreational facilities of the institutions. In this fashion, better community relations will be fostered and efficiency in providing facilities will be realized.
5. Refer to the Bucks County Natural Resources Plan to establish criteria for the preservation of open space within the region.
6. Establish a regional recreation board to provide a wide range of recreational facilities and to avoid the unnecessary duplication of these facilities where possible.
7. Investigate State and Federal Programs which provide funds for open space protection and recreational development.

Historical and Architectural Preservation

Goal - To develop a program for the preservation of historical and architecturally significant structures and historical areas within the region.

Policies

1. Designate areas and structures indicative of the historic character of the area.
2. Organize a panel of interested citizens to investigate areas which may be historically and architecturally significant and to research private and public programs which provide funds to restore and preserve these areas and buildings.
3. Encourage the use of historical buildings in a manner which will not detract from the character of the structures or surrounding structures.
4. Develop the specific ordinances which will facilitate the achievement of this goal.

Community Facilities and Public Services

Goal - To maintain a sufficient level of community facilities and public services that will satisfy the needs

of the residents and to provide these where they may be lacking.

Policies

1. Provide the municipal water system in Hulmeville Borough where it is needed.
2. Investigate the feasibility of providing a public sewage system in Langhorne Manor Borough.
3. Work together on a cooperative basis to insure that a wide range of community facilities are available to all regional residents.

To summarize, it is the overall objective of this regional planning process to establish a mechanism which will prevent these four communities from slipping into an unbalanced mass of inappropriate land uses - a future of inevitable urban decay. There could be no more beneficial time than the present to contemplate the future condition of the region. Today the Four Boroughs Region is characterized by a diversity of environments, which provides a unique potential as a rewarding place to live. The region contains several centers for shopping, employment, and industry, as well as a variety of residences. Large institutions add to the character of the Region, as do recreational and open areas. In design, the area is both historical and contemporary.

Through this planning process, it is intended that the diversity of the Region will be preserved. To accomplish this, residents and elected officials must insure that the goals stated herein are achieved. Hopefully, this plan will be an initial step in raising the awareness of community identity and in building public involvement in determining the future of the Region.

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Policies

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volume of traffic through the municipalities and under the state
pressure to serve the needs generated by new residential, commercial,
and industrial developments.

The rail systems cross the region. The Penn. Railroad's right-of-way runs through the upper portion of Lancaster County, and the Reading Railroad has a connector loop between Pottsville and Lancaster.

The decade of the 1950's was a period of unbridled population growth in Bucks County, but while the County population grew by 11.2 percent, several municipalities in this general region grew at a significantly greater rate. Listed in Table 1 are the population trends for selected municipalities: Pottsville (19.7 percent), Lower Merion Township (15.2 percent), Northampton Township (15.1 percent), Middletown Township (14.1 percent), and Northampton Township (14.1 percent). Lancaster Township (10.1 percent) and Pottsville (9.8 percent) were not ranked.

Population growth was not quite as uneven in the 1960's. Northampton Township (10.1 percent) and Lower Merion Township (7.1 percent) experienced substantial increases.

The Bucks County Housing Plan projects significant population increases during the 1970's in Newtown Township (18.4 percent), Northampton Township (18.2 percent), Pottsville (17.1 percent), and Middletown Township (15.4 percent). The population growth in this portion of the County would be relatively uniform by 1980; but at that time in the 11 selected municipalities, the population will have grown from 1955 to 1980 by 27.5 percent, an increase of 58.8 percent.

With the comparatively sudden surge in population, there will obviously be a great demand for land-use planning for the new people. This may not affect the population growth in the surrounding communities. By 1980, it is expected that the conversion of uses and pressure on public services and transportation networks. There will be a tremendous amount present residential uses that might be converted to residential use or non-residential uses. Present non-residential uses will be under pressure to convert to non-residential uses.

The larger population will have significant effects on the services and facilities provided by the various levels of government. Many such facilities, such as road systems, water, water services, and educational programs, may have been designed to accommodate a much smaller population and will be unable to provide their normal life span. Increased and efficient use might be realized in the provision of larger facilities and better programs may be required.

volume of traffic through the municipalities, are under increased pressure to serve the needs generated by new residential, commercial, and industrial developments.

Two rail systems cross the region. The Penn Central's right-of-way runs through the upper portion of Langhorne Borough and the Reading Railroad has a commuter stop between Pennel and Langhorne Manor.

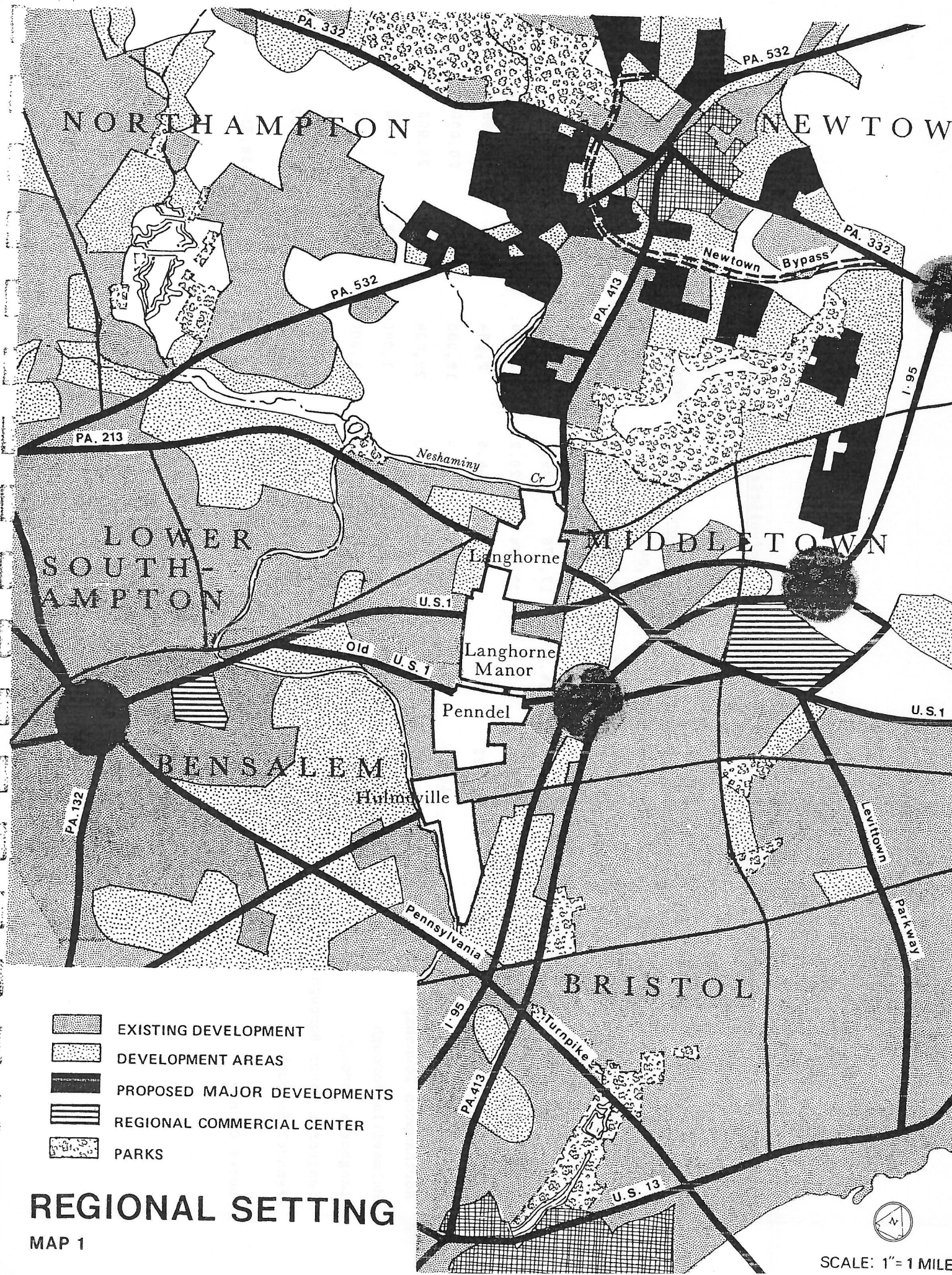
The decade of the 1950's was a period of exceptional population growth in Bucks County; but while the County population grew by 113.4 percent, several municipalities in this general region grew at a significantly greater rate. (Refer to Table 1, Population Trends for Selected Municipalities.) Bristol Township (386.7 percent), Lower Makefield Township (168.0 percent), Lower Southampton Township (254.3 percent), Middletown Township (440.1 percent), and Northampton Township (167.2 percent) all greatly exceeded the county growth rate. Bensalem Township (106.6 percent) and Pennel Borough (96.2 percent) were not markedly less.

Population growth was not quite as dramatic in the 1960's, but Northampton Township (163.2 percent) and Lower Makefield Township (72.1 percent) experienced substantial increases.

The Bucks County Housing Plan projects significant population increases during the 1970's in Newtown Township (499.4 percent), Northampton Township (86.2 percent), Bensalem Township (72.4 percent), and Middletown Township (26.4 percent). The population growth in this portion of the County should be relatively slower by 1990; but at that time in the 12 selected municipalities, the population will have grown from 44,985 in 1950 to 300,875 in 1990 - an increase of 568.8 percent.

With the comparatively sudden major increase in population, there will obviously be a great demand for land to provide homes for the new people. This may not affect the boroughs to a significant degree in that they are relatively urbanized compared to the surrounding townships. The major impact will be realized in pressures for the conversion of uses and pressure on public services and transportation networks. There will be a tendency to convert present residential uses into higher density residential uses or non-residential uses. Present non-residential uses will be under pressure to convert to more intensive uses.

The larger population will have significant effects on the services and facilities provided by the various levels of government. Many such facilities, such as road systems, sewer and water services, and educational programs, may have been designed to accommodate a much smaller population and will be obsolete long before their normal life span. Economies and efficiency which might be realized in the provision of larger facilities and broader programs may be foregone.



REGIONAL SETTING
 MAP 1

SCALE: 1" = 1 MILE






-  EXISTING DEVELOPMENT
-  DEVELOPMENT AREAS
-  PROPOSED MAJOR DEVELOPMENTS
-  REGIONAL COMMERCIAL CENTER
-  PARKS

Table I: Population Trends for Selected Municipalities in Lower Bucks County

	1950		1960		1970		1980 (Projected)		1990 (Projected)	
	Population	% Change	Population	% Change	Population	% Change	Population	% Change	Population	% Change
Bensalem Township	11,365	106.6	23,478	40.7	33,042	40.7	56,966	72.4	69,000	21.1
Bristol Township	12,184	386.7	59,298	13.8	67,498	13.8	71,473	5.9	74,700	4.5
Lower Makefield Twp.	3,211	168.0	8,604	72.1	14,804	72.1	20,448	38.1	27,000	32.0
Lower Southampton Twp.	3,562	254.3	12,619	39.3	17,578	39.3	22,124	25.9	23,100	4.4
Middletown Township	4,987	440.1	26,936	20.2	32,364	20.2	40,918	26.4	52,800	29.0
Newtown Borough	2,095	10.9	2,323	-4.6	2,216	-4.6	2,294	3.5	2,258	-1.6
Newtown Township	1,013	44.9	1,468	36.4	2,002	36.4	12,000	499.4	20,000	66.7
Northampton Township	2,248	167.2	6,006	163.2	15,807	163.2	29,434	86.2	36,900	25.4
Hulmeville Borough	860	12.6	968	-6.4	906	-6.4	1,040	14.8	1,130	8.7
Langhorne Borough	1,579	21.8	1,924	-13.0	1,673	-13.0	1,800	7.6	1,900	5.6
Langhorne Manor Borough	781	28.2	1,001	8.0	1,081	8.0	1,300	20.3	1,500	15.4
Penndel Borough	1,100	96.2	2,158	25.5	2,686	25.5	2,800	4.2	2,800	0.0
Bucks County	144,620	113.4	308,567	35.1	416,728	35.1	559,654	34.3	688,318	22.1

Source: U.S. Bureau of Census
Bucks County Housing Plan

These are the factors, although generated outside the region, which will directly affect the quality of life in the boroughs. It should be noted that facilities and services established because of the outside expansion may have direct benefits for the residents of the boroughs. Whether positive or negative, the effects of the rapid development in neighboring municipalities will play a major role in determining the future of the Boroughs. Decisions within the Boroughs must be made in light of these external factors; and the boroughs, in a unified effort, must express their ideas to influence these decisions in order to minimize undesirable impacts on these residential communities.

Each governing body, with the aid of the planning commissions and zoning hearing boards, must strive to create and maintain the desirability of its municipality. This is accomplished by maintaining community pride and spirit, by emphasizing the unique character of each community, and by encouraging each resident to maintain and improve the value of his property. In this way, the quality of the community is sustained and the cycle is begun again in a forward direction.

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THE PLAN

The approach taken in the development of this policy-oriented planning program was to investigate five primary issues which relate to life in the Four Boroughs Region. These issues - housing, traffic and transportation, recreation, historic preservation, and land use - will be dealt with in the following sections.

HOUSING

Although there is not a significant amount of land in the boroughs available for large-scale residential development, it is of major concern that the residential development which does occur is attractive and a benefit to the neighborhoods. The housing trend established over the past decade would indicate that it will be difficult to achieve the regional housing goal that would provide a balanced mix of housing types and prices. A conscious effort on the part of the citizens, builders, and municipal officials in the Region will be required to insure that the appropriate mix of housing units are provided.

The four primary housing trends since the early sixties have been:

1. A significant shift from the construction of single-family detached units to multi-family developments.
2. A greater portion of the families rent housing rather than purchase.
3. The number of available units, especially single-family units for purchase, has seriously decreased since 1960.
4. The number of people per household is decreasing.

Although these aspects seem to be characteristic of Bucks County in general, they have been significantly stronger in the lower portion of the county.* Statistics highlighting these trends are listed in Table II, Housing Trends.

* Lower Bucks Municipalities: Langhorne, Langhorne Manor, Penn-del, Hulmeville, Middletown, Lower Makefield, Yardley, Morrisville, Falls, Tullytown, Bensalem, Lower Southampton, Bristol Borough and Township.

Table II: Housing Trends

	<u>Lower Bucks</u>	<u>Bucks County</u>
<u>Types of Dwelling Units</u>		
1960 Single-family Units	49,949	84,529
1970 Single-family Units	51,211	95,279
Percent Change	2%	12%
1960 Multi-family Units	2,370	4,938
1970 Multi-family Units	15,603	23,996
Percent Change	558%	385%
<u>Ownership</u>		
1960 Owner-occupied Units	42,995	69,303
1970 Owner-occupied Units	48,389	88,365
Percent Change	12%	27%
1960 % Vacant and for Sale	2.0%	2.0%
1970 % Vacant and for Sale	.2%	.4%
1970 Average Unit Price	\$18,660	\$21,066
1960 Renter-occupied Units	6,460	14,022
1970 Renter-occupied Units	17,663	29,247
Percent Change	173%	108%
1960 % Vacant or for Rent	5.3%	5.7%
1970 % Vacant or for Rent	6.7%	5.8%
1970 Average Rent	\$ 128	\$ 121
<u>Size of Household</u>		
1960 Persons per Households	3.65	3.45
1970 Persons per Households	3.44	3.41
Percent Change	-5.7%	-1.1%

The growth of the population, the county-wide trend toward fewer people per dwelling unit, and changes in the type of housing being supplied have resulted in a sharp contraction of the number of single-family detached houses for sale. At the time of the 1970 Census, only 135 houses were available for purchase in all of Lower Bucks - out of a supply of over 48,000 owner-occupied units - a rate of 0.2%. A healthy market for owner-occupied homes would have a 2.5% rate.

Rental housing has expanded dramatically in the county, especially in Lower Bucks. Bolstered by the construction of numerous

apartment developments, renter-occupied units have increased 173% - fifteen times the growth rate of owner-occupied units.

It is becoming increasingly difficult - if not impossible - for low-income and moderate-income families to afford the traditional single-family home. This is especially true for special groups such as newly-weds, the elderly, the handicapped, and families headed by females. Nearly half of the households in Bucks have incomes under the \$14,000 per year needed to support a \$30,000 home (1970 dollars). Single-family housing in that price category is nearly non-existent in Bucks County. For the most part, even the middle-income group, which comprises 42% of the families in the county, cannot afford the new single-family detached homes being built. Table III, Income Categories, differentiates among the specific classifications as of January 1974.

Table III: Income Categories (1974 dollars)

<u>Category</u>	<u>Income Range, January 1974</u>
Low	0 - 6,145
Moderate	\$ 6,145 - 12,290
Middle	\$12,290 - 18,435
Upper	\$18,435+

Source: Bucks County Housing Plan

The Bucks County Housing Plan lists housing projections for each municipality for the 1970-1985 period. The figures and procedures in the County plan were not employed in this plan in that the County information was collected on a scale too large to reasonably reflect the residential development capabilities and needs of these smaller municipalities. Although the method of projection used by the County was appropriate for the surrounding Townships with large areas of undeveloped land, a substantial portion of the increased housing stock in the Boroughs will come from the development of scattered vacant lots, from the subdivision of existing larger lots, and from the conversion of larger residences into apartments. These changes are difficult to predict.

In drafting the regional comprehensive plan, it became apparent that decisions relating to the amount and location of alternate forms of residential development are more appropriately a function

of the planning which is a part of the local zoning process. Each municipality must make adequate provisions to accommodate a reasonable share of the future demand for various types of residential development. Each borough must promote a balanced mix of housing types and costs which will not exclude any social or economic group.

In the land use section of this plan, areas which might be considered for alternate forms of residential development are delineated. These are based on a cursory analysis and the individual municipalities should consider these as an initial step in formulating a zoning plan. It is recommended that housing densities in the chosen areas should be based on the net buildable area of the particular sites - that is, the area which is found usable after an evaluation of the natural features of the site.

There are several ways the boroughs can better accommodate future housing needs in light of the stated regional goals.

1. Housing Objectives. Act 247, the Pennsylvania Municipalities Planning Code, requires that comprehensive plans include "a statement of objectives of the municipality concerning its future development" (Article III, Section 301(1)). In this Plan, the goals of the Region are specifically stated; and it will be the responsibility of the governing bodies and the citizens to insure that private and public decisions are made in light of these guidelines.

2. Development Areas. Each municipality should designate one or more areas in which development of all types of housing units is encouraged. The area should include moderate and higher density residential uses. This area should be large enough to include, at a minimum, sufficient vacant residentially zoned land to accommodate the 15-year housing needs. The development area should be reviewed, and adjusted if necessary, at least once every five years.

3. Public Facilities. Each municipality should provide appropriate public facilities, with special attention to the timely installation of public sewerage.

4. Prices, Types and Densities. Municipalities should zone for various housing types and densities appropriate for a wide variety of income groups and family sizes. It should be recognized that a large and growing proportion of all households consist of one to three persons and may prefer small units with one or two bedrooms. It should also be recognized that, at current construction prices, only the upper income group can afford single-family detached houses on large lots. Single-family attached houses (townhouses, duplexes, patio houses, atrium houses) at four to eight units per acre, are being built at prices that the middle-income group can afford.

Each municipality should review the market demand for various housing types and densities when it reviews its zoning plans, and should adjust accordingly. Information on the supply and demand for various types of housing in the municipality can be obtained from local realtors. Minimum floor area requirements in a municipal ordinance should be no more stringent than those recommended by the Pennsylvania Department of Environmental Resources for the protection of public health.

5. Low- and Moderate-Income Housing. Every municipality might consider adopting a resolution permitting the Bucks County Housing Authority to utilize the Section 8 Leasing Program. When new federal and state housing subsidy programs are put into effect, the municipalities should adjust their ordinances to facilitate the use of these programs. Other actions to facilitate low- and moderate-income housing, such as density bonuses, should be considered.

6. Building Codes. Every municipality should adopt a nationally recognized building code, preferably the BOCA code or the National Code, and should keep it up-to-date. No changes should be made in these codes except as recommended by the Pennsylvania Department of Community Affairs. A professional code enforcement officer should serve either the individual municipality or a group of municipalities acting together. State subsidies for joint municipal code enforcement are available from the Department of Community Affairs, and the requirements for this program should be investigated.

7. Maintenance of the Existing Housing Stock. The existing housing stock is a valuable resource that must be preserved. Municipalities should take appropriate actions to do so, including adopting and enforcing a housing code. This must be done with care and sensitivity because, in some cases, over-zealous code enforcement has resulted in abandonment rather than improvement. The provision and maintenance of neighborhood facilities and services can be vitally important. Some of the existing housing units may be suitable for conversion into two or more apartment units. Such action, when properly controlled, improves the overall housing supply.

It is possible to approach future residential development in these urban boroughs in a manner other than the traditional form of subdivision which discourages the provision of open space and damages environmentally sensitive areas. Zoning in the past has treated all land in a zoning district equally, without recognizing inherent differences in physical features or shapes and sizes of lots. Few zoning ordinances took advantage of the provisions of the Pennsylvania Municipalities Planning Code which permit zoning ordinances to protect natural resources. In a free land market, the purchaser would examine the capability of the land for his particular purposes before bidding on it. The slope, size, orientation and existing improvements would be considered in arriving at a fair price.

Zoning has not dealt adequately with this common-sense approach to land value. To get this per-acre cost, the purchaser turns to the density section of the zoning ordinance and multiplies dwelling units per acre by the maximum price he can afford for land per dwelling unit. The limitations of the land are not evaluated when planning for its use.

Performance zoning is a new approach to orderly growth. Performance standards deal with land use intensity measures, site variables, design variables, and facilities. Performance zoning places the responsibility for sound design on the developer and his land planner. The test of their evaluation of site capacity for various forms of development will be their ability to perform. The concept of performance is intended to shift the developer's attention back to the capability of his land. Resource protection standards affecting lot size and shape are intended to help implement this approach.

It is unusual to see zoning districts remain stable over time. In the past, change has been the only predictable aspect. Zoning districts have been restrictive, with a district for each type of dwelling. In this era of substantial housing demand, there is a need for all types of dwellings. Performance zoning enables different types to be mixed in the same district while preserving an overall character. Permitting variety within districts should lessen some of the pressure for change.

Zoning cannot succeed as the only tool of plan implementation. Performance zoning, however, is an improved form, based on meeting housing goals and preserving natural areas. Through an analysis of a particular open area, it is possible to determine a certain percentage of open space to be maintained in order to permit development yet maintain the natural character of the area. This percentage would be based on environmental factors, or on other factors where these are not critical. The open space requirement would have a direct impact on the impervious surface ratio and density. In general, the higher the open space ratio, the lower the impervious surface ratio and the maximum density. For any open space ratio, the range in densities is wide. Density can be controlled further by requiring a certain range of housing types -- from single-family detached dwellings to garden apartments, with site-coverage limitations on each.

The open space requirements provide a new opportunity for the developer. Rather than allowing the required open space to become a burden, the developer can make it a marketable commodity by creating a recreation area. The open space ratio encourages the private sector to provide recreation, and it permits clustering so that the developer and landowner do not have to pay for the recreation land through a loss in density. This is a positive incentive toward achieving the desired goal rather than a negative requirement.

Two types of development based on performance standards are appropriate in the Boroughs: single-family cluster development and performance standard development.

The single-family cluster is a development pattern where the dwellings are grouped relatively close together around access courts, with the remainder of the subdivision site left in its natural state. Lot sizes are reduced to permit clustering; however, the number of lots remains consistent with the basic intent of zoning classification.

The cluster methods offer a number of desirable advantages not feasible under traditional subdivision techniques:

1. Reduced lot sizes combine greater flexibility in road alignment with the preservation of open space, so that the natural landscape may be spared from total development.

2. Smaller lot sizes offer property owners reduced maintenance responsibilities.

3. The loss in privately owned land is more than compensated for by the availability of large common open spaces with opportunities for recreation.

4. With the inclusion of common open space a double frontage principle may be employed, including the potential for separating vehicular access and pedestrian movement.

Direct auto access from streets would be maintained, while the common open space may be used for pedestrian circulation. The advantages of safety and amenity are apparent.

5. Finally, clustering may substantially lower development and maintenance costs. Savings can be realized in street construction, utility lines and landscaping. The developer's savings might be passed on to the consumer and the community may benefit from an improved environment as well as lower street maintenance and municipal service costs.

The performance standard development, which is similar to cluster housing in that it is based on open space, impervious surface, and density requirements, provides a variety of housing types that meet the needs and tastes of a wide range of people and help create a less static community -- socially as well as economically. Moreover, integration of housing types naturally promotes varied and distinctive architecture because of the basic differences in the design of the units. Providing for a mix of lot sizes allows greater flexibility in site design and fosters the creation of open space and recreational areas.

In the conventional subdivision existing site conditions are usually ignored. Thus, topography, vegetation, streams, and soils are damaged or irreparably altered. The result of this is a character of sameness and lack of character.

Public sewer systems are required to implement performance zoning. For a public system, the cost of treatment plants is consistent for all densities. Installation costs of mains and interceptors vary with lot size. Thus, clustering has the advantage of lowering this element in housing costs while the density remains constant. A single-family detached subdivision may result in sewer costs five to ten times those of a performance standard development or a clustered development built under performance zoning at the same density.

In summary, clusters and performance standard developments can provide a residential environment of greater variety, safety and amenity than is possible under standard development techniques; advantages accruing to the resident, the developer, and the community. Performance zoning may be used by each Borough in the enactment of ordinances and zoning maps to best address the particular needs, interests, and goals of the individual boroughs.

TRAFFIC AND TRANSPORTATION

Since William Penn's days, the Four Boroughs region has been a crossroads for major highways. Due to internal development and extensive growth in the surrounding municipalities, most of the region's major roads are rapidly reaching their designed carrying capacities -- if these capacities have not already been surpassed. Reports published by the Pennsylvania Department of Transportation and the Delaware Valley Regional Planning Commission indicate that in 1972, Bellevue Avenue, Maple Avenue, Lincoln Highway, and Trenton Road were experiencing delays and congestion. This plan will briefly address local problems, regional needs, and alternate methods of transportation within the boroughs.

At the intersection of Maple Avenue and Pine Street in Langhorne Borough, radii improvements and better signaling are necessary to provide a better flow of traffic.

The intersections of Comly and Hulmeville Avenues and Highland and Bellevue Avenues are both points of frequent accidents in Langhorne Manor. Some form of signalization at these intersections would increase the degree of safety. Prospect Avenue and Highland Avenue, between Route 413 and Station Avenue, need to be widened.

In Penndel, interior block parking should be encouraged in the commercial areas wherever possible. Robins and Park Avenues need surface improvements and, in many areas of the Borough, curbs should be provided along the streets. The intersection of Lincoln Highway and Bellevue Avenue is a point of severe congestion, and a traffic control study should be undertaken to improve the flow at this point.

In Hulmeville, the intersection at the bridge on Route 513 at Trenton Road is confusing and hazardous. Signals on both sides of the bridge and at each street entering this intersection are needed. The general condition of the bridge warrants repair or replacement. Traffic generated by the Keystone Race Track has compounded the difficult situation at this point.

The TOPICS program underway in the county will address the intersection and flow problems in all four boroughs.

At the outset of this planning program, one of the highest priorities was to alleviate the heavy traffic on Bellevue Avenue and Pine Street which is the primary north-south roadway through the region. This was to be accomplished through the implementation of the proposed Langhorne (Route 413) Bypass. Traffic traveling

through the region via Route 413 is slowed at congestion points at the Bellevue Avenue intersection with Lincoln Highway, at the at-grade crossing with the Reading Railroad tracks, along Bellevue Avenue through Langhorne Manor, and along Pine Street at the intersection with Maple Avenue in Langhorne.

In corresponding with the Pennsylvania Department of Transportation, it was found that a variety of possible corridors had been investigated. It is the opinion of the Department of Transportation that the economic and social costs of constructing the by-pass along any of the corridors could not justify the execution of the project. It is believed that in making use of improved existing and proposed limited and controlled access highways, the major portion of the through regional traffic could be accommodated. This scheme would involve northbound traffic from New Rodgers Road getting on Interstate Route 95 at Lincoln Highway, traveling north to the Route 332 Interchange, then traveling west on the Newtown Bypass Extension and the Newtown Bypass to reach Route 413 north of Newtown. This concept is intended to take the regional traffic that does not have an origin or destination in the region off the local streets and put it on high-speed highways.

It is believed that PennDOT's alternate proposal will adequately handle the traffic which passes through our region. There remains a significant amount of traffic that is both generated and has destinations between the Newtown area and the Boroughs. The changing way of life finds more people driving from place to place within the general Newtown, Middletown, Four Boroughs area. Many young people travel by car to the Bucks County Community College from the Boroughs and Levittown along Route 413. People from the rapidly growing Newtown area filter through the Boroughs on their way to the Oxford Valley Mall.

PennDOT's solution does not adequately address the needs within this greater region. The people and officials of these Bucks County municipalities must continue to press for the implementation of the Langhorne Bypass before all feasible rights-of-way have been developed.

As the population in the surrounding areas grows, the residents of the Region will increasingly depend on means other than the family car to get from one place to another. The West Trenton Line of the Reading Railroad is ranked second of the rail lines operating in the County in total ridership, with 22.2% or 1,777 average round-trips per day. The overall condition of the line is fair and the grade-crossing at Bellevue Avenue is protected. The Langhorne station is serviced by 22 trains per day on weekdays, and 5 trains connect with Philadelphia during the morning and afternoon peak periods. This station, which is the fifth most used in the county, services 562 passenger trips each weekday. A stationmaster is present at the Langhorne Station from 6:20 A.M. to 11:20 A.M. and from

1:00 P.M. to 3:20 P.M. The parking facilities are not adequate to handle the numbers of riders using the station adjacent to Comly Road. During wet weather, the unsurfaced parking lot turns to mud and cars are parked in an unorderly manner throughout the lot. SEPTA has submitted, to the county, plans for improving and increasing the parking provisions and replacing the existing station house.

The Bucks County portion of SEPTA's Bus Route B runs from Richardson and Pine Streets in Langhorne to Roosevelt Boulevard via Bellevue Avenue, Old Lincoln Highway, Trevoise Road, and Neshaminy Boulevard. Various alternate routes taken daily include stops at the Neshaminy Mall, Bucks County Mall, Eastern State School and Hospital and Byberry Hospital, to name a few.

Trenton-Philadelphia Coach Company's Route #59 originates at 17th & Market Streets in Philadelphia, travels through Lower Bucks along Route 1 via Langhorne, and terminates at Trenton's Clinton Street Station. The designated stops are the Neshaminy Mall, Langhorne Station, Levittown Shopping Center, and Country Club Center.

The Oxford Valley Mall loop operates from LeGrand Avenue and Bellevue (near the Langhorne Railroad Station) via Bellevue and U.S. Route 1 to the Oxford Valley Mall. The route then runs along U.S. 1 North, Oxford Valley Road, Levittown Parkway, Mill Creek Road, Bristol-Oxford Valley Road, and Woodbourne Road to the Mall. A direct connection from the mall to the Langhorne Railroad Station area is also available.

Transportation has long been a problem for the community's senior citizens, and the Lower Bucks Senior Citizens Association has been trying to establish a mini-bus system to provide transportation for essential shopping, church attendance, and medical examinations. The Four Boroughs Planning Commission fully supports the Senior Citizens in their efforts with this necessary program.

Coupled with the highway improvements, a comprehensive mass transit plan for Lower Bucks County is needed. A Public Transportation Study, funded by the Federal Government, is in progress; and the recommendations should be considered by the Four Boroughs Regional Planning Commission. It is recommended that the present bus routes be re-evaluated with the local governing bodies or planning commissions who best know the needs of the people within the municipalities. This must be coupled with a financial commitment to improve existing facilities and services and to provide new ones where needed. Public investments in the highway network must be preserved by adopting land use and circulation policies that allow this highway network to function as intended. Land use and transportation planning are interdependent. A change in land use will cause new pressures on the transport system, just as a change in

RECREATION

The provision of recreational facilities is an increasingly important aspect of community planning due to a growing population, more leisure time, and increasing land and facility costs. The municipality's provisions for recreation facilities reflect the image of the community, and often influence the type of people and commercial and industrial activities which will be drawn to the community.

Public recreation may be separated into three distinct scales of operation and service: neighborhood, community, and major facilities. Facilities for highly specialized activities are provided at the federal, state or county level. Costs and specialized location make such facilities practical only where a very large number of people will be served. Major facilities convenient to the Four Boroughs are Core Creek Park, Churchville Reservoir, Playwicki Park, Silver Lake, and Tohickon Park. There are state parks such as Washington Crossing, Valley Forge, Logan Park, Tyler State Park, and Nockamixon State Park. Facilities in Philadelphia such as Fairmount Park, the Art Museum, the Philadelphia Zoo and sports stadiums are available.

At the neighborhood level, play areas are designed to directly serve the neighborhood and should be within a short walking distance from each home. Facilities may range from tot lots to playgrounds, providing for both active and passive activities. Larger and more expensive facilities are provided at the community level. Ease of access is important in locating these community improvements. Community facilities may include swimming pools, athletic field, community centers, and tennis courts.

It is within the responsibility of the Boroughs to provide for neighborhood and community facilities and recreation areas. These municipalities would wish to have input into the establishment of any major recreational facility in the greater region. By making "Project 500" funds and planning assistance available, the State, through the Department of Community Affairs, is encouraging municipalities and school districts to develop district-wide recreation plans.

The types of community and neighborhood facilities which should be considered in any Borough or Regional recreation program are:

The Playlot is designed for use by pre-school children in neighborhoods where yard space is insufficient. A playlot is usually located in the middle of a block and accessible without crossing a major street. As a facility for pre-school children, it should be small - 2,000 to 5,000 square feet. It should include both paved and turfed surfaces, play equipment, fencing, landscaping and benches.

The Playground is primarily designed to serve the active play needs of children five to fifteen years old. Its size depends on the population served, varying between three and seven acres. Since the playground is used chiefly by children of elementary school age, the ideal location is adjacent to an elementary school. The well-developed playground usually provides an apparatus area, open spaces for informal play, fields and courts for a variety of games, shaded areas for quiet activities, and a sheltered area with a drinking fountain and toilet facilities.

The Playfield provides diversified recreational opportunities for all age groups. Activities commonly included are baseball, football, tennis, and others which require more space than playgrounds can provide. Also included are such specialized facilities as swimming pools, ice skating rinks and bandstands. Off-street parking facilities, night lighting, and toilets should be included.

The Park meets a community's need for passive recreation, providing a pleasant place where families can picnic, older residents can meet, and children can play informally. A park is often developed in conjunction with a playfield. Since the value of such a facility lies primarily in its natural features, a large part of the park should be woodland or open lawn. It should be of sufficient size to create its own atmosphere by neutralizing the effects of adjacent land uses.

The Community Center is a desirable adjunct to the park and playfield. Its purpose is to provide indoor recreational facilities and a center for special events and group meetings. Facilities common to such a center are a gymnasium, and auditorium, and indoor swimming pool, meeting rooms, workshops, and any other facilities deemed desirable for year-round use. A common location for a community center is in a junior or senior high school and adjacent to a playfield.

Open Space is defined by the Federal Government as undeveloped land in an urban area which has value for park and recreational purposes, for conservation of land and other resources, or for historic or scenic purposes. Open space also may give structure to a community by separating land uses, by dividing and giving identity to residential neighborhoods, and by maintaining a balanced relationship between developed land and open land.

With this variety of purposes, open space does not qualify as strictly recreational land or fall neatly into the hierarchy of recreational facilities. It is not strictly neighborhood or community oriented; it is both. It is not of any set size or dimension, for it varies with local geography. Nor is it an area that inadvertently was left undeveloped.

Open space is the result of conscious thought and planning. It is as much an integral part of the community as are homes, stores, factories and public buildings. Sound community development demands the inclusion of open space to complement developed space and to provide relief and flexibility.

Table IV, Recommended Minimum Neighborhood and Community Recreational Standards, offers general guidelines for providing community recreational facilities except open space.

TABLE IV

Recommended Minimum Neighborhood and Community Recreational Standards

<u>Type of Facility</u>	<u>Size</u>	<u>Area Served</u>	<u>Acres Per 1,000 Population</u>
<u>Neighborhood</u>			
Playlot	2,000 - 5,000 sq.ft.	One block 300 to 400 feet	none established
Playground	3-7 acres	1/4 - 1/2 mile	1.25
<u>Community</u>			
Park/ Playfield	12-20 acres	1/2 - 1 mile	1.25
Community Center	--	1/2 - 1 mile	none established

Sources: George D. Butler, Recreation Areas, prepared for the National Recreation Association, Inc. (A.S. Barnes & Co., New York, 1947).

M.A. Gabrielson and C.M. Miles, Sports and Recreation Facilities, (Prentice Hall, Englewood Cliffs, New Jersey, 1958).

American Public Health Assoc., Committee on the Hygiene of Housing, Planning the Neighborhood (Public Administration Service, Chicago, 1960).

A survey of existing facilities in each of the Boroughs indicates the following provisions:

- A. Hulmeville. The two well-maintained baseball fields accommodate, along with informal games of the residents, the thirty-team youngster league of the Pennel Wildcats. There is a semi-private swim club. With funds from the Grundy Foundation, a large tot lot and a lighted basketball court were provided for the residents' use.
- B. Langhorne. A playground area at the corner of Pine and Maple Avenues is leased from the Neshaminy Schools. At this site are facilities for basketball, volleyball, and handball. There are also swings, slides, and a pavilion with benches. At Maple and Bellevue Avenues, the Community House contains the YWCA which sponsors many community programs. There is a small park adequate for sitting. Facilities are available at the private Langhorne Swim Club and the semi-private Langhorne Country Club. The country club has facilities for golf, tennis, and swimming. There is an active senior citizens organization with facilities at Maple and Cherry Streets.
- C. Langhorne Manor. The Langhorne Spring Water Company grounds provide a habitat for many species of wildlife, providing an opportunity for bird-watching.
- D. Pennel. The five-acre ballfield accommodates two little league baseball fields and one adult league softball field. In addition to the thirty-team youngster league and the eight-team adult league, this field is used by the CYO league and the Catholic School league. There are grandstand facilities, basketball courts, a refreshment stand, and public restrooms. One of the three ballfields has lights for evening use. Two large gym sets are provided in this recreation area.

The Borough would like to have the County dedicate to the Borough three adjoining lots which would be used for needed parking facilities. There has been some discussion concerning the adjoining wooded land outside the Borough which might be acquired to provide park and picnic facilities.

The Borough has been considering the addition of a tot yard, horse shoe pits, and tennis courts in the general area of the municipal field. A desired improvement would be the lighting of the other two ballfields in order to extend the use of these facilities.

In addition to the above-stated improvements being considered in Pennel, the Regional Planning Commission has listed a number of additional facilities and open space provisions which would benefit the entire region.

Similar to the Pennel recreation field, there is a need for a large active recreation center for the convenience of Langhorne and Langhorne Manor residents. This center would include a baseball field and tennis courts.

A site is being considered for this purpose. A regional swimming pool and ice skating rink might be alternatives considered for this site.

The new library in Langhorne should be open to all residents for passive activities and as a meeting place for various organizations in the Region.

It might be considered that the Langhorne Country Club be purchased and used as a County facility rather than the proposed facility at Core Creek Park. As mentioned previously, the Langhorne Country Club has a variety of established recreational facilities.

The lands of the Langhorne Spring Water Company in Langhorne Manor should remain as a permanent open area with no active recreational facilities. The Langhorne Manor Borough Council and Planning Commission are investigating the availability of federal funding to aid in preserving this area as a natural watershed.

A bicycle trail through the Boroughs or along the proposed Route 413 by-pass is considered high-priority by the Regional Planning Commission. This trail would lead to Playwicki Park, Core Creek Park, schools, and recreational facilities, but the provision of this trail would be difficult due to a lack of shoulders on the Region's streets and the railroad right-of-way through Langhorne. An extensive study would be necessary to determine an appropriate route. The Planning Commission encourages the provision of an additional paved strip for bicycle use along any new road or any road improvement in the county.

The Regional Planning Commission suggests that the Four Boroughs consider a Joint Park and Recreation Board in order to more efficiently and economically provide this area with facilities. The joint board could establish year-round programs as well as providing facilities. Such programs should include activities for all age groups and should encourage family participation. The Pennsylvania Department of Community Affairs offers information and professional assistance in establishing these joint boards.

A program must be instituted which would coordinate the activities of the local governing bodies, local law enforcement agencies, and civic groups to discourage and minimize the vandalism which plagues existing facilities.

Facilities such as schools and municipal buildings, which are idle or restricted during a portion of the day, often represent an economic loss as well as a failure to realize their potential for service. These could be used in off-hours and on weekends to provide a variety of activities which include games, music, arts and crafts, nature, drama, social recreation and other activities for personal enrichment.

HISTORIC PRESERVATION

Since the construction of the first Friends meetinghouse in 1690 near the Neshaminy Creek, these four municipalities have served as the center for many activities: religion, education, trade, manufacturing and politics. The boroughs also served as a travelers' rest and was the social center for the early rural area. The nature of these municipalities and the stone and brick buildings which attest to the craftsmanship of their builders, are invaluable aspects of Bucks County's heritage. Unlike museums and the artifacts they contain, historic areas and buildings are useful parts of the community. Historic areas and buildings should be enjoyed; not tucked away from public use.

Both governmental and private agencies are becoming more aware that communities face a future of historical and architectural sterility unless steps are taken to retain buildings and sites which form valuable parts of their heritage. The number of historic properties has never been large and will not increase. When a historic or aesthetically pleasing landmark is destroyed, it can never be replaced. The need for preservation has been summarized in "A Report on Principles and Guidelines for Historic Preservation in the United States," published by the National Trust for Historic Preservation:

For more than a century, and especially since the rescue of Mount Vernon in 1858, the historical preservation movement in the United States has been steadily growing in scope and influence. In recent decades, however, new and complex problems have been recognized in communities throughout the nation which challenge afresh the resources and skills of preservationists. These problems stem, in large part, from such contemporary trends as urban expansion and decay, massive new highway and dam constructions, accelerated population growth, industrial and commercial expansion, and increasing leisure time.¹

Growth and preservation are not incompatible if research, planning, and communication among those concerned are adequate. Preservation should be directed toward perpetuating architectural and aesthetic as well as patriotic values; historic districts and

¹Comprehensive Planning Office of the Division of Planning and Zoning, Historic Preservation for Fairfax County, Virginia, p. 5.

areas are as important as individual buildings. Traditional open spaces, such as the lands of the Langhorne Spring Water Company, are equally valuable.

Preservation of the common cultural heritage is a task which must be shared by all levels of government and by private groups and citizens. Within the common effort, areas of responsibility must be defined:

- a) Individual Initiative. The best custodians of historic buildings are usually those who have family interests in the properties. However, many successful preservation and restoration ventures are undertaken by those who have acquired properties due to their appreciation of the structures. This aspect of preservation must be encouraged. Private deed restrictions can aid in the preservation of an historic property. The citizens, who through their efforts preserve appropriate buildings, should receive public commendation.
- b) Local Voluntary Groups. Alert citizens should initiate preservation projects, organize support, and see that the projects are carried through. The success or failure of a government program often depends on the support of locally organized groups. Civic associations, business groups, and historical societies must assume an active role if preservation in the region is to be a reality. Groups may establish non-profit historic foundations or trusts, with a revolving fund to acquire, administer, and dispose of historic properties. Others may wish to sponsor "open-house tours" allowing visitors to enjoy historic buildings and focus attention on the historic assets of their community.
- c) Government. All levels of government should view historic preservation as a fundamental civic responsibility. Through the various levels of government, funds can be appropriated, surveys can be sponsored, and historic area zoning can be adopted. Also, they can establish or designate an agency to acquire and administer historic properties and disseminate knowledge. Government programs can abate taxes for historic structures and property which are properly preserved; and, as in this plan, preservation objectives can be incorporated into comprehensive development guidelines. The balance of preservation objectives and development objectives can only be achieved through government agencies.

Pennsylvania Law No. 167, which was adopted in June 1961 and amended by Act No. 24, permits various levels of government to designate and protect structures within historic districts. Historic Zoning is only one part of the total problem of preserving historic landmarks. The success of local preservation efforts will depend largely on the extent to which a broad spectrum of coordinated activities - both public and private - can be brought to bear for preservation.

Pennsylvania Law No. 187, which was adopted in June 1981 and amended by Act No. 24, permits various levels of government to designate and protect structures within historic districts. Historic zoning is only one part of the total program of preserving historic landmarks. The success of local preservation efforts will depend largely on the extent to which a broad spectrum of coordinated activities - both public and private - can be brought to bear for preservation.

LAND USE

Development decisions in the past have not adequately taken into consideration such factors as highway capacities and natural land features. In the traffic and transportation section of this plan, the necessary highway improvements for these communities were outlined. As undeveloped land is brought into use and as land uses change, plans for traffic control and safety must be required as part of a subdivision or land development proposal. Improvements such as marginal access roads, reverse frontage, left-hand turning lanes, acceleration and deceleration lanes may be required. Plans for higher intensity uses should not be approved unless provisions to insure the safety and utility of the Borough's roads are satisfied.

Due to the particular natural features of any one site, the development potential of any site is different from any other site. Most zoning ordinances have treated all land as having equal development capacity and have not required an evaluation of the natural limitations.

In the future, the developer should be required to determine what environmental or natural features are present on the site and shall meet performance standards for environmental protection. Site alterations, including regrading of existing topography, filling lakes, ponds, marshes or floodplains, clearing vegetation, or altering watercourses prior to the submission of plans for development or subdivision should be prohibited. Where alterations occur, restoration of the site to its original condition shall be required.

The following natural features should be identified and appropriate standards incorporated into zoning ordinances for their protection:

- (1) Floodplains: all such lands shall remain as permanent open space, except that roads may cross the floodplain where design approval is obtained from the Pennsylvania Department of Environmental Resources.
- (2) Alluvial Soils: all such lands shall remain as permanent open space, except that roads may cross the floodplain where design approval is obtained from the Pennsylvania Department of Environmental Resources. Where floodplains are defined, they shall be used rather than alluvial soils.
- (3) Steep Slopes: In areas of steep slopes, i.e. those above 8%, the following standards shall apply:

- (a) 8-15%: no more than 40% of such areas shall be developed and/or regraded or stripped of vegetation.
 - (b) 15-25%: no more than 30% of such areas shall be developed and/or regraded or stripped of vegetation.
 - (c) 25% or more: no more than 15% of such areas shall be developed and/or regraded or stripped of vegetation.
- (4) Forests: No more than 40% of such forests may be cleared or developed. The remaining 60% shall be maintained as permanent open space. In special resource protection areas, no more than 20% of the forest area should be permitted to be cleared.
 - (5) Lakes, Ponds, Wetlands or Watercourses: These areas shall be left as permanent open space. No development, filling, piping or diverting shall be permitted except for required roads.
 - (6) Lake shorelines: The shorelines of lakes (bodies of water at least 2 acres in area) to a depth of 300 feet from the shorelines shall contain no more than fifteen (15) percent impervious surfaces. At least seventy (70) percent shall be permanent open space. This provision should apply to wetlands of more than two acres.
 - (7) Pond shorelines: The shorelines of ponds (bodies of water less than 2 acres in area) shall, to a depth of 150 feet from the shorelines, contain no more than ten (10) percent impervious surfaces. At least eighty (80) percent shall be permanent open space. This provision applies to wetlands of less than 2 acres.
 - (8) Storm water: All developments shall limit storm water run-off so that no more run-off is generated than that of the site in its natural condition. Where farm field or disturbed earth is the existing condition, meadow shall be used as the starting base for such calculations instead of the actual condition. All run-off calculations shall be based on a 100-year, 24-hour storm. The method for such calculations shall be that contained in United States Department of Agriculture, Soil Conservation "Engineering Field Manual," Notice 4 of April 30, 1971, as amended.

- (9) Soil Erosion and Sedimentation: All developments shall protect streams, lakes and ponds from sedimentation and shall control erosion in accordance with the Clean Streams Law, PL 1987, Chapter 102, except that in addition all developments shall submit an erosion-control plan as part of the preliminary land development plan, even if they are less than 25 acres in extent.

The National Flood Insurance Program was established under the Housing and Urban Development Act of 1968. This program makes limited amounts of flood insurance, which was previously unavailable from private insurers, available to property owners by means of a Federal subsidy. In return for this subsidy, the Act requires that local governments adopt and enforce land use control measures which will regulate future development in flood-prone areas in order to avoid or reduce future flood damage. This is particularly important in Hulmeville Borough in that a large portion of the community is in the Neshaminy floodplain. Hulmeville has approached this problem by entering the flood insurance program and adopting floodway zoning.

A major factor in land use decisions is the availability of sewer services. The Boroughs of Penndel, Hulmeville and Langhorne are entirely sewered. The existing Penndel treatment plant is to be phased out by 1980 and the Borough will be served through a connection to the Neshaminy Interceptor. Institutions in Langhorne Manor have sewer service.

Guidelines for future development depend to a large degree upon the land use patterns which have evolved over time. Map 2, Existing Land Uses, illustrates the present situation in the Boroughs. In general, there are three commercial centers. The major center is along the Lincoln Highway in Penndel; a secondary center is located in Langhorne; and a small neighborhood area is in Hulmeville.

Penndel also contains an industrial area between the Lincoln Highway and the railroad. Hulmeville has several scattered industrial land uses. The map indicates the remaining portions of the Boroughs used for residential uses of varying intensities, institutional uses, and a few major open areas.

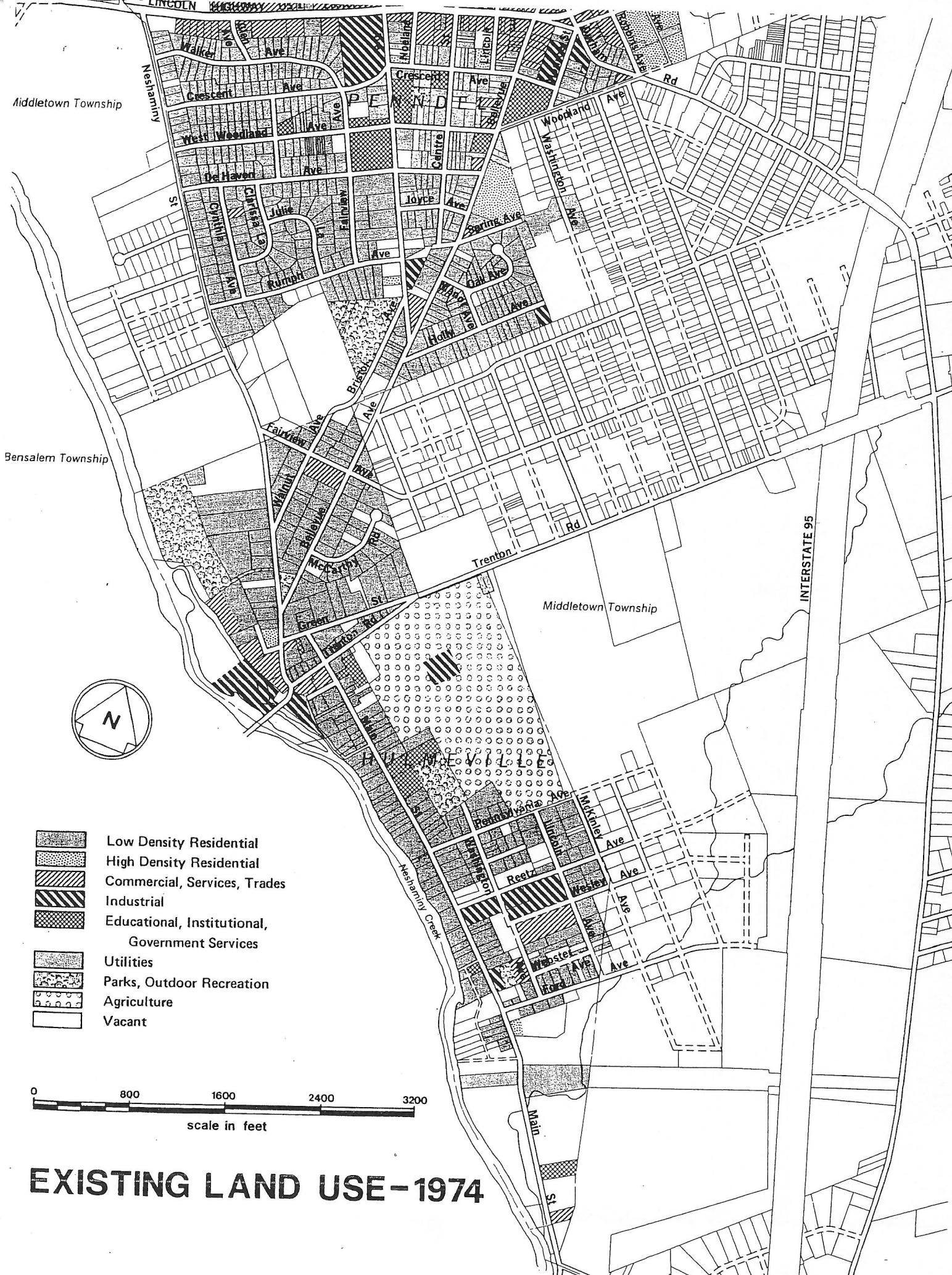
One of the prime purposes of this plan is to guide development in order to maintain a balanced mix of land uses and to insure a general residential character in the Boroughs. The intense urbanization which typifies portions of lower Bucks County is to be avoided.

Map 3, Future Land Uses, illustrates the general pattern of land uses to be achieved over the long term.

Commercial and industrial areas are to be contained, which will discourage the scattering of these uses throughout the Boroughs and will promote the development of defined centers for these activities. The industrial uses in Hulmeville's floodplain will be encouraged to relocate as the structures reach the end of their useful life.

As with other recreation areas, the open lands of the Langhorne Spring Water Company constitute unique components of these four communities.

Low-intensity development will comprise agricultural, institutional, and residential uses on at least 10,000 square foot lots. Moderate-density development will be institutional and residential uses on lots from 7,500 square feet to 10,000 square feet. Higher-intensity development will be the same uses; residential uses will be on lots smaller than 7,500 square feet. Multi-family dwellings will be permitted in specifically designated areas as alternatives to the above-stated types of development. The possible areas which might be considered are designated on the Future Land Use map, and the appropriate areas should be reflected in each municipality's zoning ordinance.












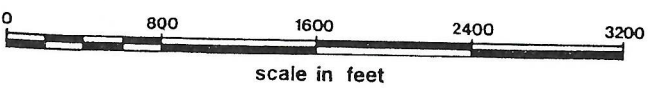
Aiddletown Township

Bensalem Township

Middletown Township



-  Low Density Residential
-  High Density Residential
-  Commercial, Services, Trades
-  Industrial
-  Educational, Institutional, Government Services
-  Utilities
-  Parks, Outdoor Recreation
-  Agriculture
-  Vacant



EXISTING LAND USE-1974

Neshaminy Creek

Pennsylvania

Railroad

TR 413

Langhorne Golf Club

Matthew Dr

Summit Ave

Winchester Ave

LANGHORNE

Watson Ave

Watson Ave

Middletown Township

Middletown Township

Flowers Ave

HIGHWAY

West Interchange

SUPER

Woods School

Central Ave

Central Ave

Highland Ave

Highland Ave

LANGHORNE MANOR

Prospect Ave

Langhorne Ave

Fairview Ave

Langhorne Spring Water Company

Park Ave

TR 413

Elm Ave

Manor Ave

Cornly Ave

Pine Ave

Reading Railroad - West Trenton Branch

Park Ave

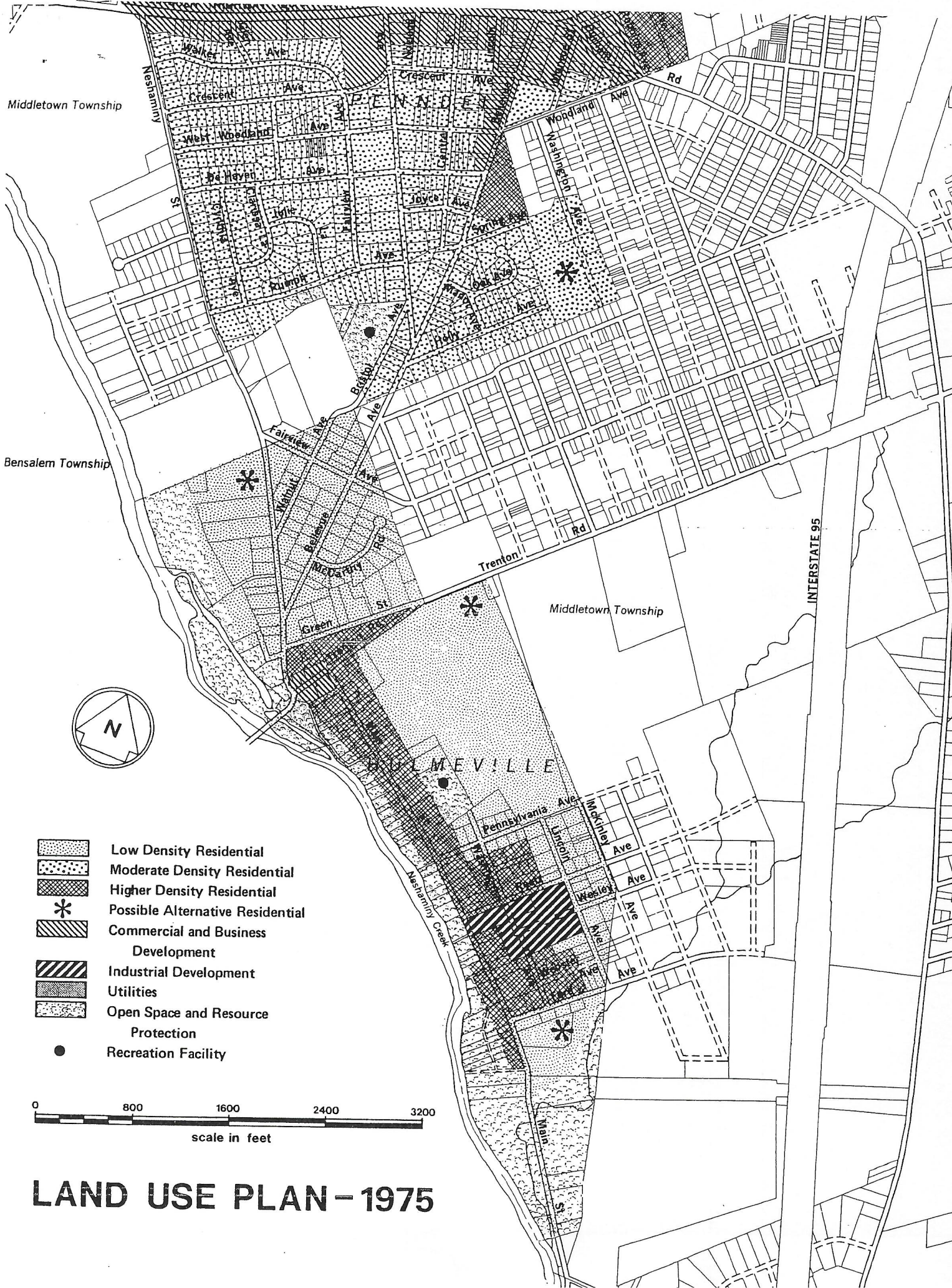
TR 413 US 1

LINCOLN

US 1

Leopards Ave

US 1



LAND USE PLAN - 1975

SUMMARY

The preceding sections have outlined guidelines which should be employed to achieve the regional goals. It is obvious that to achieve these goals, the Borough Councils must solicit the aid of residents as well as other agencies of government.

The immediate method of implementation is to develop ordinances with appropriate requirements and standards. These will include zoning ordinances and ordinances dealing with historical and architectural review.

It is equally important that the Four Boroughs Regional Planning Commission continue to be represented by each municipality, and that this organization is delegated specific programs and responsibilities. The most important charge should be the continued review of development and change in the Boroughs and the periodic revision of community goals and ordinances as situations change and planning techniques are updated. In addition, the Planning Commission should serve as a forum where residents can express their views concerning the evolving nature of these communities.