

THE COMPREHENSIVE PLAN OF
HAVERFORD TOWNSHIP

DELAWARE COUNTY, PENNSYLVANIA

1988

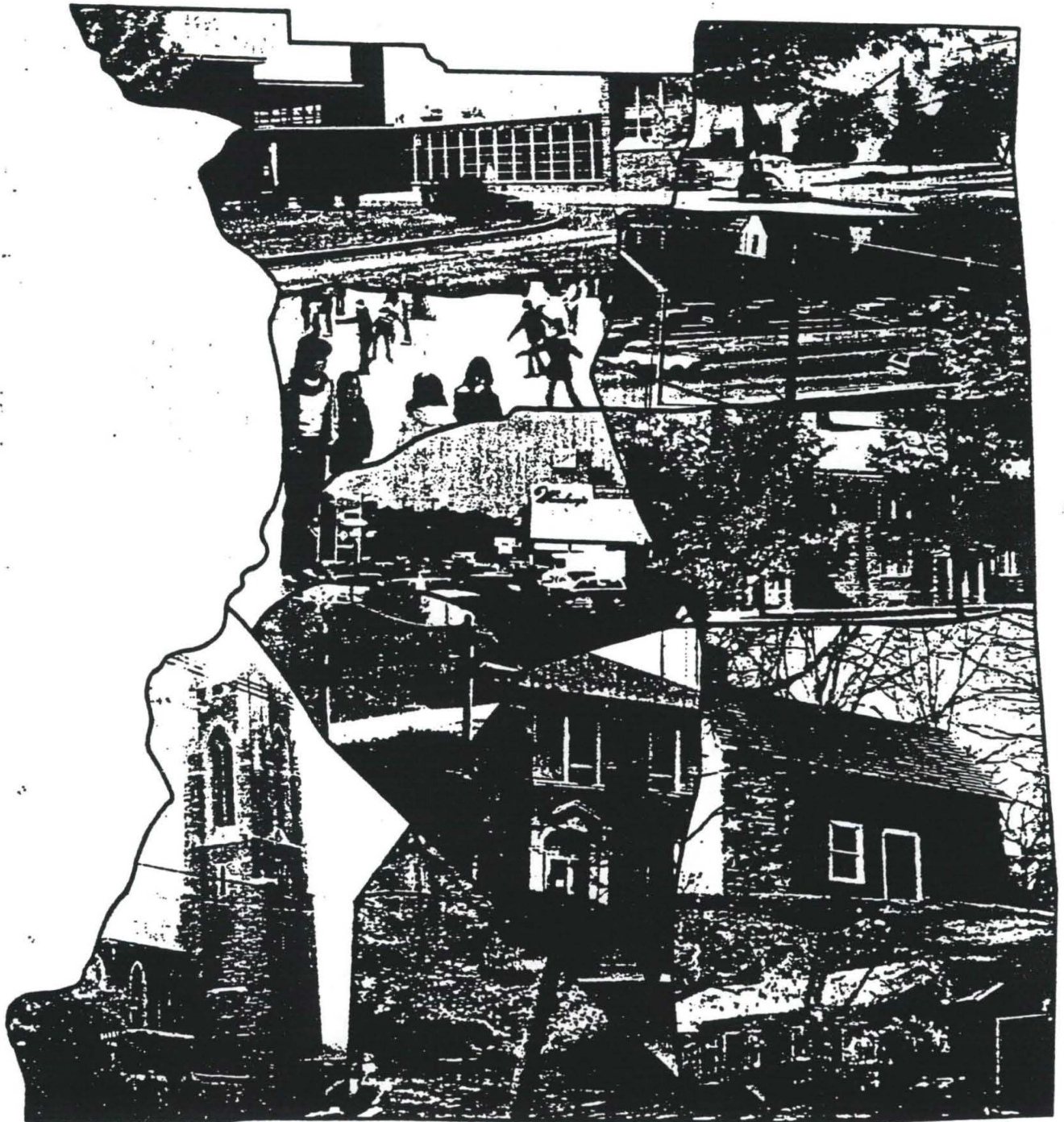
VOLUME II



THE COMPREHENSIVE PLAN OF HAVERFORD TOWNSHIP

DELAWARE COUNTY

PENNSYLVANIA



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VOLUME 2

The Board of Commissioners of Haverford Township

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Charles T. Held, Director
Department of Codes Enforcement
Zoning / Planning

RESOLUTION NO. 792-87

WHEREAS, the Board of Commissioners of the Township of Haverford desires to adopt a Comprehensive Plan consisting of maps, charts and textual material for the development of the municipality; and

WHEREAS, on February 12, 1973, the Township adopted Resolution No. 38 approving the Statement of Objectives and Land Use Plan of the Comprehensive Plan; and

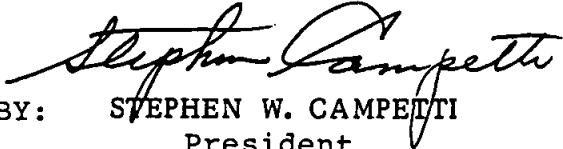
WHEREAS, the Board of Commissioners pursuant to Section 302 of the Municipalities Planning Code, Act 247, held a public hearing on July 13, 1987 to review the entire Comprehensive Plan, Volumes I and II, 1987; and

WHEREAS, pursuant to Section 302 of Act 247, the Board of Commissioners desires to adopt a complete Comprehensive Plan by Resolution.

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the Township of Haverford, County of Delaware, Commonwealth of Pennsylvania, that said Board of Commissioners hereby adopts "The Comprehensive Plan of Haverford Township, Delaware County, Pennsylvania, Volume I and Volume II" as the officical complete Comprehensive Plan for the Township pursuant to Section 302 of Act 247.

RESOLVED this 13th day of October, A.D., 1987.

TOWNSHIP OF HAVERFORD


BY: STEPHEN W. CAMPETTI
President
Board of Commissioners

Attest: Thomas J. Bannar
Township Manager/Secretary

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VI. LAND USE

Haverford Township is almost completely developed. 98.69% of all the land in the Township is developed to some form of land use other than simply being vacant. The results of the existing land use survey are found in Table VI-1.

The predominate form of land use in the Township is residential, which accounts for 62.68% of the total land area. Nearly 90% of this development has been single-family detached dwellings constructed on low to medium density lots. The largest percentage of homes is in the medium density category with lots ranging between 5,500 and 20,000 square feet. This represents 60% of all residential development and 37% of all land use in the Township. Residential development on half acre or larger lots accounted for 30% of residential use. The high density single-family category contains some detached homes, but is predominately composed of semi-detached (twin) and attached (row or townhouse)

dwellings. It accounted for 8% of residential uses. Multi-family dwellings (apartment) consisted of approximately 2½% of the residential uses and 1½% of total land area of the Township.

Commercial uses account for 3% of the total land use of the Township. Unrelated or strip commercial development predominate in this category, accounting for nearly 65% of this use. It includes development along portions of Eagle Road, West Chester Pike, and Lancaster Avenue, as well as smaller neighborhood centers scattered throughout the community. Unified, planned shopping centers account for 18% of commercial use, of which the Manoa Shopping Center at Eagle and West Chester Pike is the largest. Office development and mixed commercial/residential development each account for 8% of commercial use.

Industrial uses in the Township are quite limited and account for about one percent of the total land area. These uses are principally located at Eagle and Lawrence Roads, at an industrial park on Glendale Road, and a landfill on Township Line Road. Industrial uses in the Township are primarily of the light industrial type.

10.87% of the land in the Township is devoted to transportation and utility use. Included in this category are the rights-of-way of 33.07 miles of state-owned highways and 122.64 miles of local streets. Also included in the category

are the rights-of-way of a commuter light rail line, exclusive utility right-of-way, and other utility uses such as power substations.

The largest category of land use after residential is community facilities. It comprises 1275.53 acres of land and represents about 20% of the total area of the Township.

Approximately 30% of this land is devoted to private recreational uses, primarily golf and swim clubs. 25% of the category is publicly owned recreational land, although some of this land is maintained in its natural state for passive recreational and open space use. The remaining 45% of the land is devoted to such uses as hospitals, nursing homes, schools, colleges, churches, and cemeteries.

Agriculture was once the dominant land use in the Township, but it is now virtually extinct. Less than 1% of the land is devoted to this use and much of this land is devoted to the grazing of horses on one of the larger estates remaining in the Township. This is really an accessory residential use, but is listed in the agricultural category because much of the land upon which it occurs is subdivided parcels without any other primary use upon them.

Only 1.31% of the Township is vacant land. The 83.62 acres in this category represent subdivided parcels of land without any apparent primary use. Further development may

TABLE VI.1Existing Land Use in Haverford Township

<u>Category</u>	<u>Sub-Category</u>	<u>Acreage</u>	<u>% of Twp.</u>	<u>% of Category</u>
Residential		3991.15	62.68	
	Low Density Single-Family (20,000 sq. ft.+)	1200.07	18.85	30.07
	Medium Density Single-Family (5,500 sq. ft.-20,000 sq.ft.)	2381.62	37.40	59.67
	High Density Single-Family (-5,500 sq. ft.)	312.67	4.91	7.83
	Multi-Family	96.79	1.52	2.43
Commercial		191.39	3.01	
	Office	17.06	0.27	8.91
	Strip Commercial	125.36	1.97	65.50
	Shopping Center	34.52	0.54	18.04
	Mixed Commercial/Residential	14.45	0.23	7.55
Industrial		68.66	1.08	
Transportation & Utility		692.5	10.87	
Community Facility		1275.53	20.03	
	Private Recreation	394.10	6.19	30.90
	Public Recreation	322.67	5.07	25.30
	Other Institutional	478.76	7.52	37.53
Agricultural		58.97	0.93	
Vacant		83.62	1.31	
Total		6367.90		

always occur through future subdivision of oversized parcels or through redevelopment, but it is apparent that land for development in Haverford Township has become a scarce resource.

In order to better evaluate existing and future land use in the community, the Township was divided into 29 "neighborhoods" (see map). Neighborhood boundaries were developed by the Delaware County Planning Department, and, with a few exceptions, generally correlated with perceptions of neighborhoods as reported on the Haverford Township Department of Planning and Development 1977 resident survey. The County boundaries were utilized to allow integration of County data into the plan.

All existing land uses were surveyed by field inspection and recorded on a series of detailed maps maintained in the office of the Haverford Township Department of Planning and Development. Because of the scale of these maps and the existence of scattered non-conforming uses, it was decided not to attempt to reproduce these maps in this report.

The fact that the Township is 99% developed will obviously influence the future land use map. In selected locations, however, alternative land use proposals were proposed where the condition of existing use, the extent of non-conforming uses, or land values made redevelopment a possibility. These alternative plans, together with the balance of the proposed future land use map, were reviewed by the Haverford Township Planning Commission, and the proposals contained in the accompanying future land use map are recommendations to the Board of Commissioners.

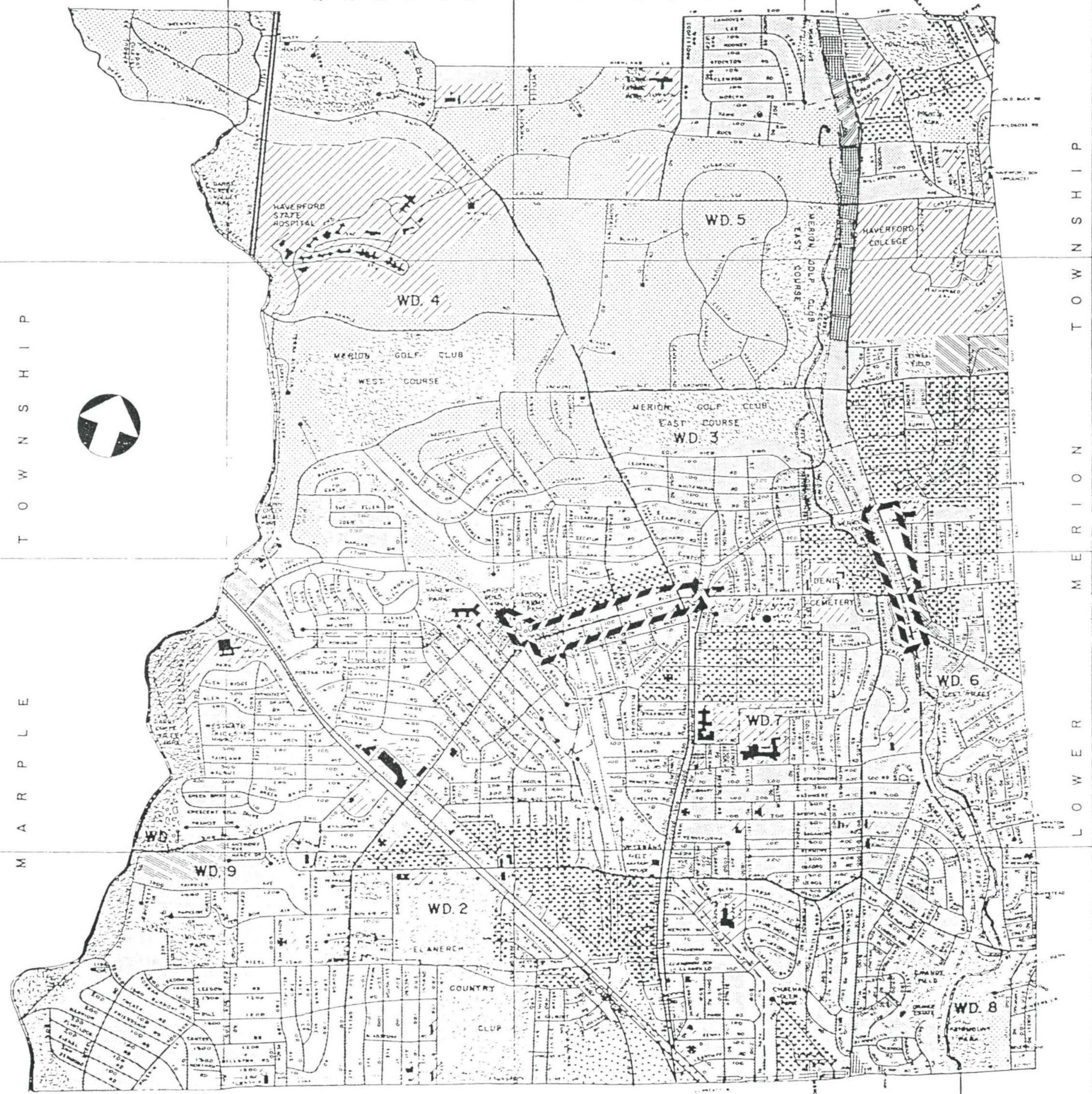
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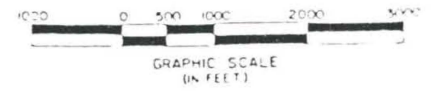


- KEY:
- LOW DENSITY SINGLE FAMILY RESIDENTIAL
 - MEDIUM DENSITY SINGLE FAMILY RESIDENTIAL
 - HIGH DENSITY SINGLE FAMILY RESIDENTIAL
 - MULTI-FAMILY RESIDENTIAL
 - INSTITUTIONAL
 - UNRELATED COMMERCIAL
 - OPEN SPACE, RECREATIONAL
 - SHOPPING CENTER
 - OFFICE
 - UTILITY
 - LIGHT INDUSTRIAL
 - HIGH INTENSITY MIXED USE
 - COMMERCIAL AREA STUDY

FUTURE LAND USE MAP

TOWNSHIP OF HAVERFORD

DELAWARE COUNTY, PA.



Neighborhood 1: Brynford

This neighborhood is bounded by the Radnor Township line, the Lower Merion Township line, College Avenue, and the SEPTA High Speed Line tracks. It is also traversed by Haverford Road, Lancaster Avenue, and Railroad Avenue.

This neighborhood is one of the most diverse in the Township. It contains an intensive strip commercial district along Lancaster Avenue, extending into Lower Merion Township, and office development along Haverford Road, particularly south of County Line Road and north of College Avenue. Institutional uses in the neighborhood include the Bryn Mawr Center for the Arts, two large nursing homes, the Chateau and Bryn Mawr Terrace, a portion of the Our Lady of Good Counsel Roman Catholic Church, the Haverford Friends Meeting House and School, and a portion of the Haverford School. The neighborhood is also served by two parks, Polo Field and Preston Field. A commuter light rail station is located on the SEPTA tracks, north of College Avenue.

Residential uses within the neighborhood are also diverse. Housing types range from single-family detached dwellings on lots exceeding one acre in size to row homes. Single-family detached homes on smaller lots predominate, but the neighborhood has one of the largest concentrations of semi-detached (twin)

homes in the Township.

Brynford also contains one of the highest concentrations in the Township of non-conforming uses with respect to the zoning ordinance. A 1975 study of this neighborhood by the Planning Department revealed 28 such uses which did not conform to the zoning ordinance. Such uses may be legal if established prior to any zoning in the Township, or if in conformity with the zoning ordinance at the time of their establishment. Nonetheless, they can have an impact on neighborhood development. Non-conforming uses included a large number of construction contractors operating in residential areas, scattered commercial activity, and an iron working establishment.

Several alternative future land use alternatives were prepared for this neighborhood to evaluate the potential for expansion of office, multi-family, and varying densities of single-family residential uses at selected sites where redevelopment appeared likely. The future land use plan recommended by the Planning Commission, however, was one which builds on the existing character of development and generally does not propose any major changes. A corridor of office use is proposed along the east side of Haverford Road from County Line Road to an area north of Polo Road, and on the west side of Haverford Road an office district is proposed to include the areas of existing development south

of Landover Road and between West Avenue and College Avenue. The balance of Haverford Road is proposed to remain residential and institutional. Brynford contains a large stock of moderately priced, higher density, single-family dwellings which is a resource in scarce supply in this Township. The plan proposes to preserve and expand these uses in the area along Preston Avenue, Buck Lane (west of Railroad Avenue), Penn Street, Martin Avenue, and Dayton Road. The Plan also proposed to expand the Office District along both sides of Haverford Road south of Landover Road and to establish a Multi-Family District further south on Haverford Road. The balance of the neighborhood remains consistent with current development patterns.

Neighborhood 2: Coopertown

Coopertown is bounded by Landover Road, Coopertown Road, College Avenue, and the SEPTA tracks. It is almost exclusively residential in character with the one exception being a Philadelphia Electric substation located south of Landover Road at the SEPTA tracks. Buck Lane forms a boundary between moderate density, single-family development (5,500-20,000 square feet) to the north and low density (half acre or larger) single-family development to the south. There are no multi-family, commercial, industrial, or institutional uses in this neighborhood.

The future land use plan proposes a continuation of existing pattern of development.

Neighborhood 3: Bryn Mawr (Northwest)

This neighborhood is situated south of the Radnor Township boundary, bounded on the west by Sproul Road, on the south by Darby Road, and on the east by Coopertown Road.

Low density, single-family detached development dominates existing development, although the neighborhood contains a number of institutional uses. The Coopertown Public Elementary School is located at Highland Lane and Coopertown Road and is adjoined by the Township-owned Highland Farms Park. The Saint John Neumann Church, rectory, and school are located at the intersection of Highland Lane and Radnor Road, and a convent of the Sacred Heart of Jesus is located northwest of North Coopertown and College Avenue. A higher density residential development located in this neighborhood is an adult townhouse and quadruplex community along the east side of Radnor Road at the Township line. An already constructed, but not open, portion of the Mid-County Expressway (Blue Route) bisects the neighborhood near Ithan Creek.

The proposed future land use plan designates most of the neighborhood as low density, single-family residential with the exception of the above noted institutional uses and the adult townhouse and quadruplex development which the plan shows as medium density, single-family residential. The plan also features a proposed open space corridor along Ithan Creek and includes a homeowners association maintained section of the Fox Fields development.

Neighborhood 4: Hospital Area

This neighborhood is bounded by the Radnor Township line, Sproul Road, Darby Road, Ardmore Avenue, Ellis Road, the abandoned right-of-way of the Newtown Square Branch Railroad, Marple Road, and Darby Creek. This is the largest neighborhood in terms of area, but it is dominated by institutional uses, the Haverford State Hospital, which extends between Darby Road and Darby Creek, the adjacent private Mitchell School, now part of Quadrangle Life Care Facility, and the West Course of the Merion Golf Club, between Marple and Ellis Roads. The already constructed but unopen portion of the Mid-County Expressway crosses

the State Hospital property and the undeveloped portion of its land west of the Expressway is leased to the Township for passive recreation. Much of the remaining land in this neighborhood is used for low density residential development. Included is the former estate of H. Gates Lloyd along Darby Road, a portion of which is devoted to agricultural use. A Life Care estate has been proposed for this site. This neighborhood contains several significant tracts of vacant land, the largest of which is 17 acres between the Creek and Sproul Road. Additional subdivision in this neighborhood is likely in the future as a result of the breakup of large estates.

The future land use plan proposes designation of the State Hospital and Mitchell School as institutional uses, and designates the golf course as open space. Also designated as open space is a green belt along Darby and Ithan Creeks. The balance of the neighborhood is proposed for low density, single-family residential use.

Neighborhood 5: Merion Golf Estates

This neighborhood is bounded by College Avenue, the SEPTA tracks, Ardmore Avenue, Darby Road, and Coopertown Road. It contains approximately half of the East Course of the Merion Golf Club, with the balance of the neighborhood being characterized by low density, single-family development.

The future land use plan proposes no change from this pattern of development.

Neighborhood 6: Haverford College Area

Neighborhood 6 is bounded by College Avenue, the Lower Merion Township line, Ardmore Avenue, and the SEPTA tracks.

Haverford College is the major land use in this neighborhood, with its campus consisting of academic buildings, dormitories, faculty housing, and athletic fields. A Township-owned park, Elwell Field, adjoins the campus on Ardmore Avenue. Also located in this neighborhood are two multi-family residential developments, Haverford Park and Haverford Village. Both developments are along Ardmore Avenue. Moderate density, single-family development exists north of Ardmore Avenue and west of Elwell Field. Similarly, single-family development at moderate density exists along the west side of Haverford Road at either end of the neighborhood. The central portion of this stretch of Haverford Road consists of about seven acres and is vacant.

The future land use plan proposes to establish an Office District along the west side of Haverford Road, opposite the college. Elwell Field is designated as open space and recreation and the existing multi-family development is retained in that category. The balance of the neighborhood, except the vacant lands west of Haverford Road, is proposed for medium density residential development.

Neighborhood 7: Ardmore Park

Neighborhood 7 is bounded by Ardmore Avenue, the Lower Merion Township line, Haverford Road, and the SEPTA tracks.

Mixed strip commercial development extends along both sides of Haverford Avenue, south of Ardmore Junction (Hathaway Lane) and smaller neighborhood commercial districts exist along Pont Reading and County Line Roads. The former Chestnutwold Public School at Loraine Street and Belmont Avenue represents the only significant institutional use in the neighborhood and its future is now uncertain. Residential uses are moderate to high density, single-family dwellings with a complex of multi-family dwellings located on the north side of Haverford Road at Kenilworth Road. A townhouse development is situated south of Wynnewood Road at Avon Road.

The future land use plan proposes unrelated commercial usage along both sides of Haverford Road between Hathaway Lane and a point below Eagle Road but recommends that it be the subject of further detailed studies. Smaller neighborhood commercial locations are also shown along Pont Reading Road and County Line Road. Otherwise, the plan proposes no changes in existing land use patterns.

Neighborhood 8: Merion Golf Manor

This neighborhood is bounded by Ardmore Avenue, Darby Road, Shawnee Road, Golf View Road, and the SEPTA tracks.

The southern portion of the Merion Golf Club's East Course dominates land use in this neighborhood and occupies nearly half of its ground area. All other uses are residential with most at medium densities. The only exception to this is a small area low density residential at the extreme northeast corner of the neighborhood. All homes are single-family detached.

No changes in land use patterns in this neighborhood are anticipated by the future land use plan.

Neighborhood 9: Paddock Farms

This neighborhood is bounded by Darby Road, Woodcroft Road, Merrybrook Road, the former tracks of the Newtown Square Branch Railroad, Ellis Road, and Ardmore Avenue.

With the exception of the Nevil Memorial Church of St. George, which is located in the extreme northeast corner of the neighborhood, Paddock Farms is exclusively a residential neighborhood. Development is at low density immediately south and east of Ellis Road and at medium density in the balance. All homes are single-family detached.

No change in existing land use patterns is anticipated in the future land use plan.

Neighborhood 10: Lynnewood Park

This neighborhood is bounded by the former right-of-way of the Newtown Square Branch Railroad, Eagle Road, West Chester

Pike, and Darby Creek.

It contains the largest shopping center in Haverford Township, the Manoa Shopping Center at the corner of Eagle Road and West Chester Pike together with adjacent commercial and office development extending along both streets. There is also mixed commercial and industrial use at the intersection of Lawrence and Eagle Roads.

Lynnewood Park contains several institutional uses. The Lynnewood Elementary School is located on Lawrence Road and is adjoined by a Township-owned park. Also nearby, behind homes on the opposite side of Lawrence Road, is another smaller park area. A third municipal park area in this neighborhood is the Foster Tract tot lot at Lynnewood Drive. Much of the east bank of Darby Creek, between the creek and Darby Creek Road, is maintained by the Township as a nature conservation area. Several churches are located in Lynnewood Park, including Trinity Methodist Church on West Chester Pike and the Kingdom Hall of Jehovah's Witnesses on Lawrence Road.

Several large multi-family dwellings are located in the western portion of this neighborhood: Robindale, Lawrence Hill, and Hollow Run. Attached homes are located along the north side of Lawrence Road opposite the Lynnewood School, and along West Chester Pike between Robinson Avenue and Stanton Road.

Much of the remaining land in Lynnewood Park is developed with single-family detached dwellings. These single-family dwellings are constructed at moderate densities except for areas along both sides of, and west of, Ellis Road, and for the area north of Lawrence Road between Kingdom Hall and a point east of Jacalyn Drive. These latter areas are developed at low densities.

Several small vacant parcels exist in this neighborhood as do a few oversized lots capable of further subdivision.

The future land use plan proposes only modest change in existing use patterns. The multi-family district already existing along West Chester Pike is expanded slightly to eliminate single-family enclaves but the plan proposes that the remaining frontage along West Chester Pike between Hollow Run and Stanton Road remain residential. Several alternative plans had been evaluated in this area but were rejected.

The plan proposes acquisition of easement for a nature trail behind Robindale Apartments, and newer homes being constructed on Joann Circle, and proposes acquisition of a vacant parcel of land along Darby Creek at Marple Road. Together with existing municipal holdings, this would give the Township control of all lands along the creek and permit the construction of the trail.

Remaining land use patterns will remain consistent with current patterns.

Neighborhood 11: Oakmont

Oakmont is an elongated neighborhood which spans both sides of Darby Road. It extends eastward from Darby Road along Shawnee Road where it follows a ward boundary to Golf View Road and the SEPTA tracks. The neighborhood boundary extends south along the tracks to Hathaway Lane and Hillcrest Avenue where it follows Darby Road south to Eagle Road. The boundary proceeds west along Eagle Road to the former tracks of the Newtown Square Branch Railroad. It then proceeds along Merrybrook Drive and Woodcroft Road to Darby Road.

The neighborhood is predominately developed with single-family detached dwellings at medium density, although somewhat higher densities exist along West Hillcrest Avenue.

Eagle Road was at one time developed residentially, but has since been rezoned and most of the land converted or redeveloped for commercial use. This has resulted in an unattractive strip commercial area with poorly regulated signage and multiple curb cuts in close proximity of one another. Several commercial uses are mixed with apartment uses and one small multi-family development exists in this area. There are also several offices along this portion of Eagle Road. Industrial uses predominate in the area north of Eagle Road between West Hillcrest and the Newtown Square Railroad.

Paddock Farms playground is located in Oakmont, south of Colfax Road and west of Woodleigh Road. The Merion Golf Manor Nature Park is also located in this neighborhood along Cobbs Creek.

The future land use plan proposes no changes in existing patterns of land use. It is suggested, however, that both sides of Eagle Road between East Darby and Lawrence Roads be studied separately at a later date to determine ways of improving this area.

Neighborhood 12: Merwood

Merwood is bounded by Hathaway Lane, Hillcrest Avenue, Darby Road, Eagle Road, and the SEPTA tracks.

Mixed commercial and apartment uses extend along Eagle Road between Darby and Hirst Terrace and continue along Darby Road between Eagle and a municipal parking lot. A small complex of multi-family dwellings exists on Eagle Road between Hirst Terrace and East Hathaway Lane.

Institutional uses include the Oakmont School and the St. Denis Roman Catholic Church, cemetery and school, north of Eagle Road. A municipal playground, Merwood Park, is located south of East Hathaway Lane.

The balance of the neighborhood is developed with single-family detached and semi-detached homes. The western half of Merwood is built at medium density and the eastern half at a higher density.

A narrow strip of vacant land lies between Cobbs Creek and the SEPTA tracks. It is undevelopable because of its narrowness, lack of street frontage, and location within the flood plain.

The only change in existing use patterns proposed by the Comprehensive Plan is the acquisition of the above mentioned narrow strip of land along Cobbs Creek to promote extension of a nature trail along this stream.

Neighborhood 13: Beechwood

Beechwood is located along the Township's eastern boundary with Lower Merion. Other boundaries are Haverford Road, the SEPTA tracks, and Powder Mill Lane.

Much of the land along Karakung Drive and Cobbs Creek is part of the Township-owned Powder Mill Valley Park. Also located in Beechwood are the Gest Tract, a public park north of Homestead Avenue; the private Karakung Swim Club on Karakung Drive; and the Beechwood Community Church on Beechwood Drive.

Single-family detached homes at medium density occupy most of the remaining land in Beechwood, but a townhouse condominium development exists at Bryn Mawr Place, off of Haverford Road. There are also a few semi-detached dwellings in the neighborhood.

Several vacant parcels remain in this neighborhood but most are at scattered locations and of small size. The only

exception is a seven-acre parcel at the end of Chestnut Avenue. This is a very rugged parcel of land and terrain will limit the extent of development on it.

No major changes in existing patterns are anticipated in the future land use plan. Vacant parcels are proposed for residential development.

Neighborhood 14: South Ardmore

South Ardmore is bounded by Darby Road, Eagle Road, Mill Road, and the SEPTA tracks.

Mixed commercial and residential uses exist along Eagle Road between Darby and a point east of East Darby Road and along Darby Road and East Darby Road from Eagle to Marthart Avenue. Multi-family structures exist on East Darby Road and on Darby at Benedict Avenue.

South Ardmore contains a number of community facilities. The Township's administrative offices are located on Darby Road, south of Eagle, and the recently expanded public library is located at the corner of Darby and Mill Roads. The public high school, Middle School, athletic fields, and School District administrative offices share a tract of land south of Marthart Avenue with frontage on both Darby and Mill Roads. Also located in South Ardmore are the Haverford Friends Cemetery and Meeting House on Eagle Road, the St. Denis Cemetery and Chapel south of Eagle Road, and the Suburban

Jewish Community Center on Mill Road.

Residential uses include multi-family, single-family detached, and single-family semi-detached. Generally, single-family uses occur at high density north of the school complex and at medium density east of that complex.

A water tower exists south of Eagle Road.

There is virtually no vacant land in South Ardmore, and hence land use patterns are well established. One proposal revolves around the recent expansion of the public library on Mill Road. This site is not adequate to provide adequate off-street parking for the new site and it is suggested that the home immediately to the rear of the library on Greenway Road be acquired for an off-street parking lot if this becomes a problem.

Neighborhood 15: Brookline #1

This neighborhood extends between the abandoned Newtown Square Branch railroad tracks and Darby Road and between Manoa Road and Eagle Road.

The northern edge of this neighborhood is marked by the same type of poorly developed unrelated commercial usage as was described in Neighborhood 11, Oakmont. There is additional commercial use, often mixed with apartments, along Darby Road from Ralston Avenue to Marthart Avenue, with isolated non-conforming commercial uses occurring further south on Darby Road. There is a fuel oil distributor located along

the railroad tracks north of Manoa Road, and an electric substation at the tracks and Eagle Road.

The Haverford Township Police Station is located at Darby and Manoa Roads as is the Skatium, a publicly-owned ice skating rink. These facilities are located on Veterans Field, a municipal park. Also located in this neighborhood is Grasslyn Park which is adjoined by the headquarters of the Noonan Slook Post 338 of the American Legion. Both facilities are on Grasslyn Avenue. The Oakmont Fire Station is located on Benedict Avenue. One church, Grace Chapel, is also located here, at the corner of Eagle and Darby Roads.

Residential uses are generally single-family detached dwellings at medium density, although some semi-detached dwellings occur at higher densities south of Bellemeade Avenue.

The future land use plan proposes expansion of Grasslyn Field should the American Legion Post ever be placed on the real estate market, and the acquisition of a gasoline service station and fuel oil distributor which adjoin Veterans Field. The former would be expanded public facilities while the latter would increase recreational land use at that location. These are the only major changes in land uses proposed for this neighborhood.

Neighborhood 16: Manoa

Manoa is bounded by the former Newtown Square Branch Railroad, Eagle Road, and West Chester Pike. Much of this neighborhood

is traversed by Naylor's Run, a tributary of Cobbs Creek. The stream bank is heavily developed along much of its course through Manoa.

Commercial uses dominate the West Chester Pike frontage of this neighborhood except for the one block between Washington and Roosevelt Avenues, which is mixed commercial, residential, and institutional, and for the area on either side of the intersection of Vernon Road where commercial and residential uses are also mixed. Much of the commercial usage along West Chester Pike is unrelated commercial, but a small shopping center exists at the foot of Woodland Drive which is principally occupied by a supermarket and a bank. Some of the unrelated commercial usage coexists with apartments on upper floors. Unrelated commercial uses, including offices, extend northward for a short distance along Eagle and Manoa Roads as well.

The Philadelphia Chewing Gum Company's factory is located at the northern edge of the neighborhood at Eagle Road and the railroad tracks. It is the largest private employer in the Township.

Bailey Park, off of South Washington Avenue, is a municipally-owned recreation area. Other institutional uses include the United Presbyterian Church of Manoa at Eagle and Sunny Hill Lane, the Trinity Lutheran Church of Havertown at

1141 West Chester Pike, and the Sacred Heart Roman Catholic Church and School at Manoa Road and West Chester Pike.

The McCandless Fuel Oil Company is located in Manoa at the railroad tracks, east of Washington Avenue. This is a non-conforming use which is accessed only by a private railroad underpass at Harvard Road in the Brookline #1 neighborhood. Fuel oil trucks must travel through residential streets to reach this location and have created conflict in the latter neighborhood.

Residential uses are predominately single-family detached dwellings at medium density in the area north of Washington Avenue and single-family detached and semi-detached at higher density in the southern portion of the neighborhood.

This is another neighborhood in which alternative land use scenarios were developed, particularly along West Chester Pike. The resulting recommendation is to designate all areas along West Chester Pike for unrelated commercial use except for the two church properties, which would remain community facilities, and for the area between Washington Avenue and Trinity Lutheran Church which would be designated for office development. It should be noted that this long range recommendation also includes Vernon Road which is now developed residentially, but it is suggested that the zoning not be changed on this block until such time as public or private redevelopment makes the renewal of that entire block likely. The area along Eagle Road

between commercial properties fronting on West Chester Pike and Lincoln Avenue would also be designated for office use. This is opposite the Manoa Shopping Center.

The future land use map designates the McCandless property for medium density single-family use, but suggests that it be provided with access to Washington Avenue. The current underpass should be retained as a pedestrian linkage between the Manoa and Brookline #1 neighborhoods.

All other land uses would remain essentially as is.

Neighborhood 17: Westgate Hills

This neighborhood is bounded by Darby Creek, West Chester Pike, Manoa Road, Oak Way, and Glendale Road.

Although it is primarily a residential neighborhood, there are a number of community facilities in Westgate Hills. With the exception of a commercial car wash and a non-conforming industrial use (saw mill) at West Chester and Old West Chester Pikes, all of the east bank of Darby Creek is in public ownership as a nature conservation area. This area is known as Darby Creek Valley Park. A portion of this land away from the creek is used for the Public Works Department garage and maintenance facility, for the firemen's training grounds, and for the School District's bus storage facility. There is also an active recreation area at the Westgate Hills Park, off of Oxford Hill Lane, and three smaller undeveloped park areas:

Glendale Farms, Glendale Road, and Walnut Hill Lane. The private Hilltop Swim Club is located on Hilltop Road. The neighborhood is the site of Haverford General Hospital and the Haverford Rehabilitation Center, both of which are off of Old West Chester Pike. It is also the location of the Manoa Baptist Church at Claremont Boulevard and Glendale Road and of St. Matthew's Reformed Episcopal Church at Glen Gary Drive and West Chester Pike. The Manoa Community Library (which is not part of the Haverford Township Free Library) is located at Eagle and Manoa Roads, and the Manoa Fire House is located on Eagle Road, south of West Chester Pike. This latter facility provides both fire and ambulance service to the community.

A commercial car wash, a medical clinic, and a medical office building are located along West Chester Pike near Darby Creek. Unrelated commercial uses resume at Glendale Road and continue along most of West Chester Pike east of that area. Within this area are several banks, a retail/office building, and an apartment complex. Unrelated commercial uses extend south along Eagle Road between West Chester Pike and the Manoa Fire Station.

A light industrial district is located off of Glendale Road at the site of a former quarry.

Single-family detached dwellings at moderate density dominate west of Eagle Road with semi-detached dwellings at high density prevailing east of Eagle Road. In addition to the aforementioned apartment complex on West Chester Pike, another multi-family development exists on the west side of Eagle Road south of West Chester Pike.

The future land use map takes note of existing patterns of development and proposes an expansion of office uses along the south side of West Chester Pike and Eagle Road. The area on the south side of West Chester Pike between Glendale Road would remain unrelated commercial. The area east of the existing multi-family development on West Chester Pike would be designated for office use as would the area between Darby Creek and Old West Chester Pike along West Chester Pike. Other areas would remain consistent with current uses.

Neighborhood 18: Bon Air

Bon Air is the area bounded by Darby Creek, Glendale Road, Oak Way, Manoa Road, the eastern boundary of the Llanerch Country Club, Steel Road, and Burmont Road.

The eastern portion of the neighborhood is entirely occupied by the northern portion of the Llanerch Country Club grounds. It also contains a portion of Darby Creek Park, including a newly completed active recreation area on the site of a former sewage treatment plant, Hilltop Park located off of Steel Road, the Thompson Tract nature area, and the Williamson Field athletic complex. All are owned by the Township except for the country club which is private and for the Williamson Tract which is administered by the School District. Also within the neighborhood are the Bon Air Fire House on Royal Avenue and the Manoa Elementary School on Manoa Road. The Ebenezer United Methodist Church is located at Eagle and Steel Roads.

The Haverford Hill condominium complex is located on Glendale Road. The balance of the area is developed with single-family detached dwellings at medium density. A few small vacant parcels are located within Bon Air.

No changes in pattern of existing use are anticipated by the future land use plan.

Neighborhood 19: Brookline #2

Brookline #2 is bounded by Mill Road, Earlington Road, Edgewood Road, Manoa Road, and Darby Road. Brookline Boulevard runs through it.

Small unrelated commercial uses occur along Darby Road north and south of Brookline Boulevard, along Brookline Boulevard east of Darby Road, and at the northwest corner of Brookline Boulevard and Edgewood Road. A mixed office, multi-family development exists at the northeast corner of Darby and Manoa Roads and a multi-family complex exists at Darby and Kathmere Roads.

The neighborhood contains the former Brookline Elementary School on Earlington Road which is now used for classes by the Delaware County Intermediate Unit and as a Senior Citizen Center. The neighborhood also contains Annunciation Roman Catholic Church and School on Brookline Boulevard, the St. Faith Episcopal Church at Brookline Boulevard and Allston Road, the Union Methodist Church on Brookline Boulevard, and the Temple Lutheran Church at Brookline Boulevard and Earlington Road. The Brookline Fire Company is also located in the neighborhood, off of Darby Road.

Much of the remaining residential use is single-family detached dwellings at medium density, although there are scattered semi-detached dwellings at higher densities. Vacant land is virtually non-existent.

The future land use plan proposes no major alterations of existing land use patterns.

Neighborhood 20: Penfield

Penfield is a predominately residential neighborhood bounded by Edgewood Drive, the SEPTA tracks, and Manoa Road.

It contains a small Township park, the Cadwallader Tract, and a SEPTA station. All other land within the neighborhood is

devoted to residential uses with the majority being medium density, single-family detached dwellings. There are a few semi-detached dwellings as well.

No changes in the neighborhood are anticipated by the future land use map.

Neighborhood 21: Penfield Downs

Penfield Downs is bounded by the SEPTA tracks, Powder Mill Lane, Manoa Road and the Lower Merion Township line. Cobbs Creek flows through it.

It is also a predominately residential neighborhood consisting of single-family detached dwellings at medium density. It does contain municipal parkland, Powder Mill Valley Park, including a portion devoted to active recreation between Powder Mill Road and Cobbs Creek. The Church of the Holy Apostles is located on Remington Road at the Lower Merion line.

No changes in this neighborhood are anticipated by the future land use map.

Neighborhood 22: Carroll Park

Carroll Park is bounded on the north by Manoa Road, on the east by the Lower Merion Township line, on the south by the boundary with the City of Philadelphia, and on the west by the SEPTA tracks. Cobbs Creek flows through the neighborhood.

Nearly half of Carroll Park is a nature conservation area owned by the Philadelphia Fairmount Park Commission even though it is located in Haverford Township. There is a small public tot lot located off of Farwood Road, and a non-conforming office use is located on Township Line Road near Farwood Road. All other uses in the neighborhood are single-family detached dwellings at low and medium densities.

The future land use plan proposes no changes in this pattern of use.

Neighborhood 23: Chatham Village

Chatham Village is bounded by Manoa Road, the SEPTA tracks, Township Line Road, and Earlington Road.

Chatham Village was one of the last portions of the Grange estate to be sold. As it was disposed of in sections, some went to private developers, but two major sections were acquired by the Township. The first was an active recreation area near Cumberland and Ashurst Roads, which is known as the Grange Field. In 1974 the estate house itself, together with outbuildings and surrounding grounds, was acquired for the Township and is maintained as an historic site.

Calvary Lutheran Church and School is located on Township Line Road at Chatham Drive, and St. James United Church of Christ is located at Myrtle Avenue and Warwick Road. An office building is situated at Township Line Road and Grove Place, and a gasoline service station is located at Township

Nearly half of Carroll Park is a nature conservation area owned by the Philadelphia Fairmount Park Commission even though it is located in Haverford Township. There is a small public tot lot located off of Farwood Road, and a non-conforming office use is located on Township Line Road near Farwood Road. All other uses in the neighborhood are single-family detached dwellings at low and medium densities.

The future land use plan proposes no changes in this pattern of use.

Neighborhood 23: Chatham Village

Chatham Village is bounded by Manoa Road, the SEPTA tracks, Township Line Road, and Earlington Road.

Chatham Village was one of the last portions of the Grange estate to be sold. As it was disposed of in sections, some went to private developers, but two major sections were acquired by the Township. The first was an active recreation area near Cumberland and Ashurst Roads, which is known as the Grange Field. In 1974 the estate house itself, together with outbuildings and surrounding grounds, was acquired for the Township and is maintained as an historic site.

Calvary Lutheran Church and School is located on Township Line Road at Chatham Drive, and St. James United Church of Christ is located at Myrtle Avenue and Warwick Road. An office building is situated at Township Line Road and Grove Place, and a gasoline service station is located at Township

Line and Earlington Roads. A small vacant parcel is located on Earlington Road above this service station.

The remaining land is predominately developed with single-family detached dwellings at medium density, although there are a few semi-detached residences.

The future land use plan proposes to establish an office district along Township Line from Juniper to Earlington Roads. All other uses would be unchanged.

Neighborhood 24: Chatham Park

This neighborhood is bounded by Manoa Road, Earlington Road, Township Line Road, Juniper Road, Twin Oaks Drive, and Allston Road.

The United States Post Office is located at Township Line and Earlington Roads and the Chatham Park is situated between Heatherwood and Juniper Roads.

Semi-detached dwellings at high density exist along Juniper Road, and the remainder of the neighborhood is developed with single-family detached dwellings at medium density.

The future land use plan proposes to place the post office property, which is leased by the Federal Government, in an office category. This is the only change proposed in Chatham Park.

Neighborhood '25: Llanerch Hills

This neighborhood is bounded by Manoa Road, Twin Oaks Drive, Juniper Road, Township Line Road, West Chester Pike and the Newtown Square Branch Railroad. Darby Road also passes through a portion of Llanerch Hills.

The neighborhood contains unrelated commercial uses along West Chester Pike, continuing along Township Line for a short distance on land currently occupied by a truck rental agency. There are mixed office, commercial, and residential uses on Darby Road, and a non-conforming warehouse on Llanerch Avenue.

The Llanerch Fire Station is located on Darby Road and provides both fire and ambulance service. The Llanerch Public School is situated at Darby Road and Llandillo Road, and is presently leased to the Delaware County Intermediate Unit. The Chatham Park School at Glen Arbor and Allston Roads is being used as a public elementary school. The Llanerch Presbyterian Church is located at Park and Lansdowne Roads, and St. Andrew's United Methodist Church is located on Llandillo Road.

Residential uses are generally single-family medium density east of Darby Road, and single-family high density to the west. A small multi-family apartment complex is located on Llanerch Avenue.

The future land use map proposed the establishment of a band of office uses along the west side of Darby Road, crossing

over to the east side at Manoa and again at a point south of Moewyn Road. The office district extends to Llanerch Avenue only at the area now occupied by the warehouse property.

Unrelated commercial uses are proposed along West Chester Pike and the portion of Township Line including and east of that area now occupied by the truck rental agency. Institutional uses are retained. Two areas of high density, single-family residential use are proposed west of Foster Avenue and east of Darby Road, corresponding to existing development patterns. The balance of the neighborhood is proposed for medium density, single-family detached use.

Neighborhood 26: Richland

Richland is bounded by West Chester Pike, the Llanerch Country Club, and Township Line Road. Naylor's Run flows through a portion of this area.

An abandoned stone quarry located on Township Line Road consists of approximately 35 acres which is now used as a landfill. Adjacent is a large Clover discount store also located on Township Line Road.

The West Chester Pike frontage has mixed uses. The Llanerch Country Club grounds extend to the West Chester Pike at Manoa and are adjoined by the headquarters of a fraternal organization and a parcel of land currently being developed by an office building. Residential uses predominate from a point above Country Club Lane to Westwood Park Drive. At that point there is an automobile dealership followed by the Richland Farms Park. This public park is located on two blocks. One is undeveloped and extends to Steel Road. The remaining block has a basketball court on it. The currently vacant land owned by the Philadelphia Electric Company comprises the balance of the West Chester Pike frontage.

In addition to the vacant parcels, the Township Line frontage of this neighborhood is occupied by several medical offices.

The balance of the neighborhood is developed residentially. Much of it is single-family dwellings at medium density, although there is some at higher density along parts of Country Club Lane and Olympic Avenue. An historic property, Richland, is also located on Olympic Avenue and has been converted to apartments.

The Future Land Use Plan proposes a special category for the landfill site and the Clover Store. This category is designated "high intensity-high tax ratable" and is meant to serve as a flexible category capable of providing for a variety of large scale uses, including shopping centers, office buildings, hotels, and high-rise apartment buildings. It is recognized that the landfill is unbuildable until filled in.

The plan also suggests that consideration be given to the sale of the undeveloped portion of Richland Farms Park for commercial use. This would provide increased tax ratables and the proceeds of the sale could be used to acquire other recreation land which would be more suitable.

Other uses in the neighborhood would remain essentially unchanged.

Neighborhood 27: Llanerch Country Club Area

This neighborhood is bounded by Steel Road, the eastern edge of the Llanerch Country Club, Township Line Road, and Drexel Avenue.

As its name indicates, this neighborhood is largely occupied by the southern portion of the grounds of the Llanerch Country Club. Other institutional uses include the Bethany Collegiate Presbyterian Church at Township Line and Concord Avenue, The First Philadelphia Seventh Day Adventist Church at Township Line and Edmonds Avenue, and the Armenian Martyrs' Congregational Church at Edmonds Avenue and Gladstone Road. There are also several medical offices along Township Line Road.

Residential uses are predominately single-family medium density. There are a few scattered vacant parcels.

The plan proposes a belt of office use along the Township Line frontage except for those locations already occupied by the country club and churches. The remainder of the neighborhood is proposed to remain in the single-family medium density classification.

Neighborhood 28: Drexel Avenue Area

This neighborhood is bounded by Steel Road, Burmont Road, Township Line Road, and Drexel Avenue.

There is a small shopping center east of Burmont Road and several other adjacent commercial uses. There are two churches, Trinity Baptist at Ellston and Burmont Roads, and the Resurrection Evangelical Lutheran Church of Haverford Township at Peach Lane and Township Line Road. Most of the remaining area is developed with single-family detached dwellings at medium density.

The plan proposes an extension of the Township Line office district from the edge of existing commercial uses to the Llanerch Country Club neighborhood.

Other uses in the neighborhood are proposed to remain consistent with current patterns.

Neighborhood 29: Pilgrim Gardens

This neighborhood is bounded by Township Line Road, Darby Creek, and Burmont Road.

The neighborhood is essentially single-family medium density residential, but much of the land along Darby Creek is in public ownership and is a portion of the Darby Creek Valley Park. There is one small house along the creek remaining in private ownership. The neighborhood adjoins the Pilgrim Gardens Shopping Center, but this commercial use is wholly located in Upper Darby Township.

The only change in existing land use patterns proposed in this neighborhood is the acquisition of the remaining land along Darby Creek.

The future land use plan is a guide for the Township to use in evaluating future development and redevelopment plans of both the public and private sectors. It serves as a master plan for public actions and as a guide for private requests for zoning changes. Although the zoning map need not conform identically to the future land use map, the future land use map should guide future Zoning Map amendments.

VII HOUSING

This section of the plan contains an analysis of housing availability within Haverford Township. An inventory of housing units currently available in the Township by type, condition, age, and value or rent will be established. In addition, housing needs for existing and future Township residents will be analyzed by tenure and income level. Special attention will be given to the needs of lower and moderate income families.

Land Use

Land availability and natural features affecting it are the base determinants of the location and extent of residential construction activity. Furthermore, the kind of development is dependent on Township zoning regulations which govern density and type of unit. Haverford Township today is already almost totally developed. Further growth will result from the filling in of parcels which had previously been bypassed, and the breaking up of the few remaining large estates.

Vacant land in the Township which is suitable for residential development consists of small, spatially diverse plots and large estates. Much of this land consists of environmentally sensitive parcels such as those located along flood plains, steep slopes, and in areas of poor soil conditions. Thus great care must be taken in the development of these tracts. In total, there are 84 acres of vacant land remaining in the Township. This is 1.3% of the total land area of the Township. However, when large estates and oversized lots are considered and all potentially developed land is added in, the vacant land total increases by about 200 acres. Of this, 250 acres are currently zoned for residential use.

Haverford Township today is comprised of 6,368 acres (9.95 square miles). Residential land use comprises 3,991.15 acres or 63% of this total acreage. The remaining land, which consists of commercial, industrial, community facilities, and transportation, is tabulated in Table 1.

TABLE VII-1

Existing Land Use

<u>Use</u>	<u>Acreage</u>	<u>%</u>
Residential	3,991.15	62.68
Commercial	191.39	3.01
Industrial	68.66	1.08
Transportation/Utilities	692.5	10.87
Community Facilities	1,275.53	20.03
Vacant	83.62	1.31
Agricultural	58.99	0.93
Total	6,367.90	-

Residential Land Use

Table VI-2 illustrates the breakdown of residential land use in Haverford Township by density. Almost 90% of the residential land use is low and medium density. Low density, which is defined as a minimum lot size of greater than 20,000 square feet, and corresponds to the R-1, R-1A and RLD zoning classifications, comprises 1,200 acres (30%). Medium density, which includes lot sizes ranging from 5,500 to 20,000 square feet and corresponds to the R-2, R-3, R-4, and R-5 zoning districts, is the most common in the Township, covering 2,383 acres (60%). High density, consisting of lot sizes under 5,500 square feet, which corresponds to the R-6 and R-7 zoning districts, comprises 313 acres (7.8%). Apartments comprise 97 acres (2.4%). Not included in these totals are another 14.45 acres of mixed commercial and residential use.

TABLE VII.2Residential Land Use

<u>Use</u>	<u>Acreage</u>	<u>%</u>
Low density	1,200.07	30.01
Medium density	2,381.62	59.61
High density	312.67	7.83
Multi-Family	96.79	2.43
Total	3,991.75	100%

Housing Stock

In 1980, the total all year round housing stock for Haverford Township numbered 17,473 housing units. This was an increase of 1,556 units (9.8%) over the 1970 housing stock of 15,917. Total occupied housing units in 1980 number 17,112. These consisted of 14,679 owner occupied (8.6%) and 2,433 renter occupied (14%). There was an increase of 1,333 (8.49%) occupied units over the decade from 1970 to 1980 which can be broken into an increase of 877 owner-occupied units (65.8%) and 456 renter-occupied units (34.2%).

TABLE VII.3

Haverford Township Housing Stock

	<u>1970</u>	<u>% of 1970 Total</u>	<u>1980</u>	<u>% of 1980 Total</u>	<u>Change 70-80</u>	<u>% Change</u>
All Housing Units	15,919	-	17,473	-	1,556	9.7
Total Occupied Housing Units	15,779	99.1	17,112	97.9	1,333	8.4
Owner occupied	13,802	87.5	14,679	85.8	877	6.3
Renter occupied	1,977	12.5	2,433	14.2	456	23.1
Vacant	138	0.9	361	2.1	223	161.6

Source: 1970 and 1980 U. S. Census of Housing

Between 1970 and 1980 the number of vacant units increased almost 162% from 138 units to 361 units. Nonetheless, the higher 1980 figure still represents a vacancy rate just over 2% below the 3% vacancy rate considered normal to allow adequate choice within any given housing market. This is evidence of the continued strength and desirability of homes in Haverford Township.

Characteristics of the Housing Stock

Several characteristics of the housing stock are shown in Table VII-4. 90% of all units in Haverford Township are located in structures with only one (1) unit in the structure. These are primarily single family detached dwellings. Just over 5% of the total are located in structures with 2 to 9 units and the number includes semi-detached dwellings, two family dwellings, townhouses and small apartments. The remaining units are located in structures with 10 or more units in them and comprise larger multi-family developments.

86 condominium units were noted in the Census of which 4 were renter occupied and 16 were vacant. The vacancy rate for condominiums is over 35%, well above the 2% rate for all housing in the Township. The statistically small sample should be borne in mind when comparing the two vacancy rates but it does appear that resale of condominiums is more difficult than the resale of conventional units. The total number of condominium units now in

the Township is much higher because of the subsequent conversion of the Manoa Park Apartments to the Haverford Hill Condominiums.

Finally, it should be noted that the Census listed 5 mobile homes or trailers being used as dwellings within the Township in 1980. The land use survey failed to determine evidence of these units.

TABLE VII-4

Selected Characteristics of Housing in Haverford: 1980

<u>Units in Structure</u>	<u>Number</u>	<u>Percent</u>
1 unit	15,802	90.4
2 - 9 units	904	5.2
10 or more units	762	4.1
Condominiums		
Total	86	
Rental	4	4.7
Vacant	30	35.7
Mobile Home or Trailer	5	

Haverford will continue to have a sizable quantity of residents living in group quarters because of the large number of institutional uses with group quarters in the Township. The largest of these is Haverford State Hospital.

TABLE VII-5
Dwelling Units by Year Structure Built

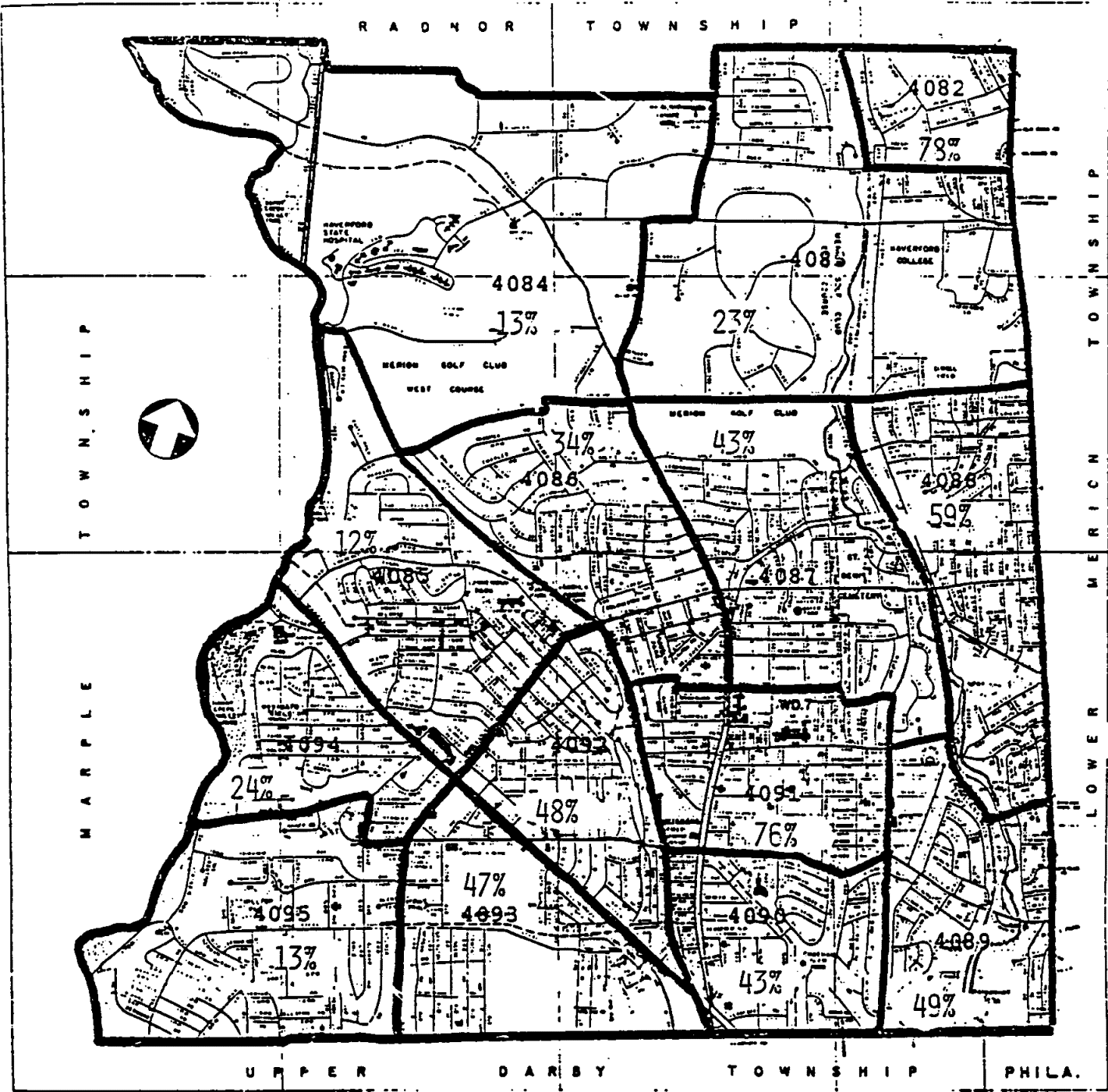
	<u>Number</u>	<u>% of Total</u>
1979 to March 1980	175	1.0
1975 to 1978	261	1.5
1970 to 1974	413	2.4
1960 to 1969	1,761	10.1
1950 to 1959	4,389	25.1
1940 to 1949	3,568	20.4
1939 or earlier	6,906	39.5

Source: 1970 U. S. Census of Housing

Age of Housing Stock

Nearly 40% of all homes in Haverford Township were built prior to 1940, as detailed in Table VII-5. Although the age of a home is not, by itself an indicator of housing problems, the concentration of such homes in the Township speaks towards the need to guard against deterioration.

Figure VII-6 indicates the percentage of such older homes by census tracts. Of special note are census tracts 4082 in the Bryn Mawr area and tract 4091 in Brookline. The proportion of homes built prior to 1940 in these tracts is 78% and 72% respectively.



TOWNSHIP OF HAVERFORD

CENSUS TRACTS

JANUARY 1978

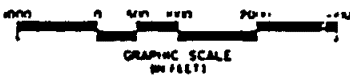


FIGURE VII- 6
 % OF HOMES BUILT PRIOR TO 1940

Housing Affordability

It is a recognized national problem that many low and moderate income households are unable to secure affordable housing. Tables VII-7 through VII-10 indicate that this is a problem in Haverford Township as well.

Table VII-7 lists the number of non-condominium sales dwelling units which were valued at less than \$40,000 in 1980. This is roughly equivalent to homes valued at \$53,000 at the end of 1985 but the 1980 values will be retained to allow compatibility with other census data. The table then computes the required monthly carrying cost for a home in each price grouping. This carrying cost is based upon the monthly payments for a mortgage granted at 12% interest rate and financing 90% of the value of the home plus estimated tax payments. For example, there were 563 homes valued between \$35,000 and \$39,999 in the 1980 census. A home costing \$39,000 would require \$361 in mortgage payment plus \$92 per month for taxes, producing a total monthly housing cost of \$453. The Table also indicates that the median value of a home in Haverford Township was \$61,300 in 1980 and that the monthly carrying cost for that home was \$712.

Table VII- 7

AFFORDABILITY OF NON- CONDOMINIUM SALES HOUSING IN HAVERFORD TOWNSHIP
FOR LOW AND MODERATE INCOME HOUSEHOLDS IN 1980

VALUE OF HSB	# Units	Target	\$ Financed	Mortg	Taxes	Mon.	Cost
< 10,000	11	8,000	7,200	74	19		93
10,000 - 14,999	15	14,000	12,500	130	33		163
15,000 - 19,999	49	19,000	17,100	176	45		221
20,000 - 24,999	90	24,000	21,500	222	57		279
25,000 - 29,999	160	29,000	26,100	268	69		337
30,000 - 34,999	375	34,000	30,500	315	80		395
35,000 - 39,999	563	39,000	35,100	361	92		453
MEDIAN VALUE:		61,300	55,170	567	145		712

Notes:

1. Target price equal to home costing 80% of value range.
2. Mortgage payment assumes 30 year fixed rate of 12% for 90% of value
3. Taxes assume assessed value equal to 7% of market value.
4. Number of units in value range from U. S. Census.

Table VII-8 then compares that data with the number of households earning less than 50% of the median annual income (\$11,874 in 1980) and moderate income households are defined as those earning between 50% and 80% of the median (\$11,874 - \$18,954 in 1980). To qualify for a home mortgage, a household is generally required to show that the mortgage and taxes will not exceed 28% of its monthly income. Thus, 28% of the monthly income is accepted as the maximum monthly affordable housing payment. Table VII-8 compares this number with the number of available housing units in Table VII-7 with carrying costs that are within the affordability range. The difference between the number of available housing units and the number of households in each income group is called the housing gap. It is shown both for each income group and for cumulativity. Thus it can be seen that a moderate income family making \$17,000 a year can qualify for a home with a carrying cost of \$397 per month. There were 1,057 households in the associated income group but only 375 affordably priced homes, leaving a housing gap of 682 units. At that point, the cumulative gap was 4,940.

The table also indicates that the maximum housing cost for a family making Haverford's median income was \$553 per month but the payment necessary to support the median priced home was \$712, resulting in an affordability gap of \$159 per month.

These figures should only be used as indicators of housing imbalance. They do not permit closer analysis because that data should be adjusted by family size and number of bedrooms per unit.

Yet the fact emerges that significant numbers of Haverford's low and moderate income households would not be able to afford to purchase a home in the Township if they had to today.

Table VII-9 performs a similar analysis for rental units, displaying the number of units with contract rents of less than \$500 per month. The median rent was \$268 per month.

Federal housing guidelines assume that a family can spend up to 30% of its income for rental housing and this standard is used in Figure VII-10 to adjust the maximum housing payment upward. This is then compared with maximum housing payments for rental housing in Table VII-10. Although there are larger numbers of affordable units, an imbalance of housing gap still remains at every income level. Again, no match is attempted between household size and unit size, nor is any effort made to subtract substandard units.

Table VII- 8

**SALES HOUSING AFFORDABILITY: LOW/MODERATE INCOME HAVERFORD HOUSEHOLDS
1980**

ANNUAL INCOME RANGE	TARGET INCOME	MONTHLY INCOME	MAX HSG PAYMENT	NUMBER HSHLDS	AFFRD UNITS	HOUSING GAP	CUMLTV GAP
(2,500	2,500	208	58	256	0	256	256
2,500 - 4,999	4,500	375	105	676	11	665	921
5,000 - 7,499	7,000	583	163	797	15	782	1,703
7,500 - 9,999	9,500	792	222	976	49	927	2,630
10,000 - 12,499	12,000	1,000	280	929	90	839	3,469
2,500 - 14,999	14,500	1,208	338	949	160	789	4,258
5,000 - 17,499	17,000	1,417	397	1,057	375	682	4,940
17,500 - 19,999	19,500	1,625	455	1,013	563	450	5,390
Median Income:	23,693	1,974	553				
Monthly Cost of Median Home:			712				
Housing Affordability Gap			(159)				

Notes:

1. Target income equal to 80% of annual income range.
2. Maximum housing payment equal to 28% of monthly income.
3. Data on number of households per income range from U. S. Census.
4. Number of affordable housing units from Table VII- 6.
5. Affordability gap equals difference between number of households in income group and number of housing units in value range where there is an approximate match between maximum monthly housing payment and monthly carrying cost of target income and target home value. No assumption is made as to match of unit and household size.

Table VII- 9

AFFORDABILITY OF RENTAL HOUSING IN HAVERFORD TOWNSHIP
FOR LOW AND MODERATE INCOME HOUSEHOLDS IN 1980

Contract Rent	# Units	Target Rent
< 50	5	45
50 - 99	55	95
100 - 119	31	116
120 - 139	38	136
140 - 149	21	148
150 - 159	58	158
160 - 169	41	168
170 - 199	218	194
200 - 249	489	240
250 - 299	405	290
300 - 399	575	380
400 - 499	244	480
MEDIAN RENT:	268	

Notes:

1. Target price equal to home costing 80% of value range.
2. Mortgage payment assumes 30 year fixed rate of 12% for 90% of value.
3. Taxes assume assessed value equal to 7% of market value.
4. Number of units in value range from U. S. Census.

Table VII-11 combines the number of affordable sale units from Table VII-8 and the affordable rental units from Table VII.10 and compares them with the number of households in each income group. Again, a disparity exists at each level and this does not take into account the fact that some households may be living in units which are less expensive than their maximum housing payment, thus displacing households in lower income levels. Significantly, rental housing accounts for 66% of all affordable units in the Township but only 14% of the Township's housing stock.

The median 1980 value of "sales" housing units in the Township is shown by census tracts in Figure VII-12. Tract 4082 in the northeast corner of the Township had the lowest media value at \$42,200 while the median value in tract 4084, in the northwest corner was nearly three times higher at \$112,800. Census tracts 4083, 4084, 4086, 4087, and 4089 had median values above the Township median of \$61,300.

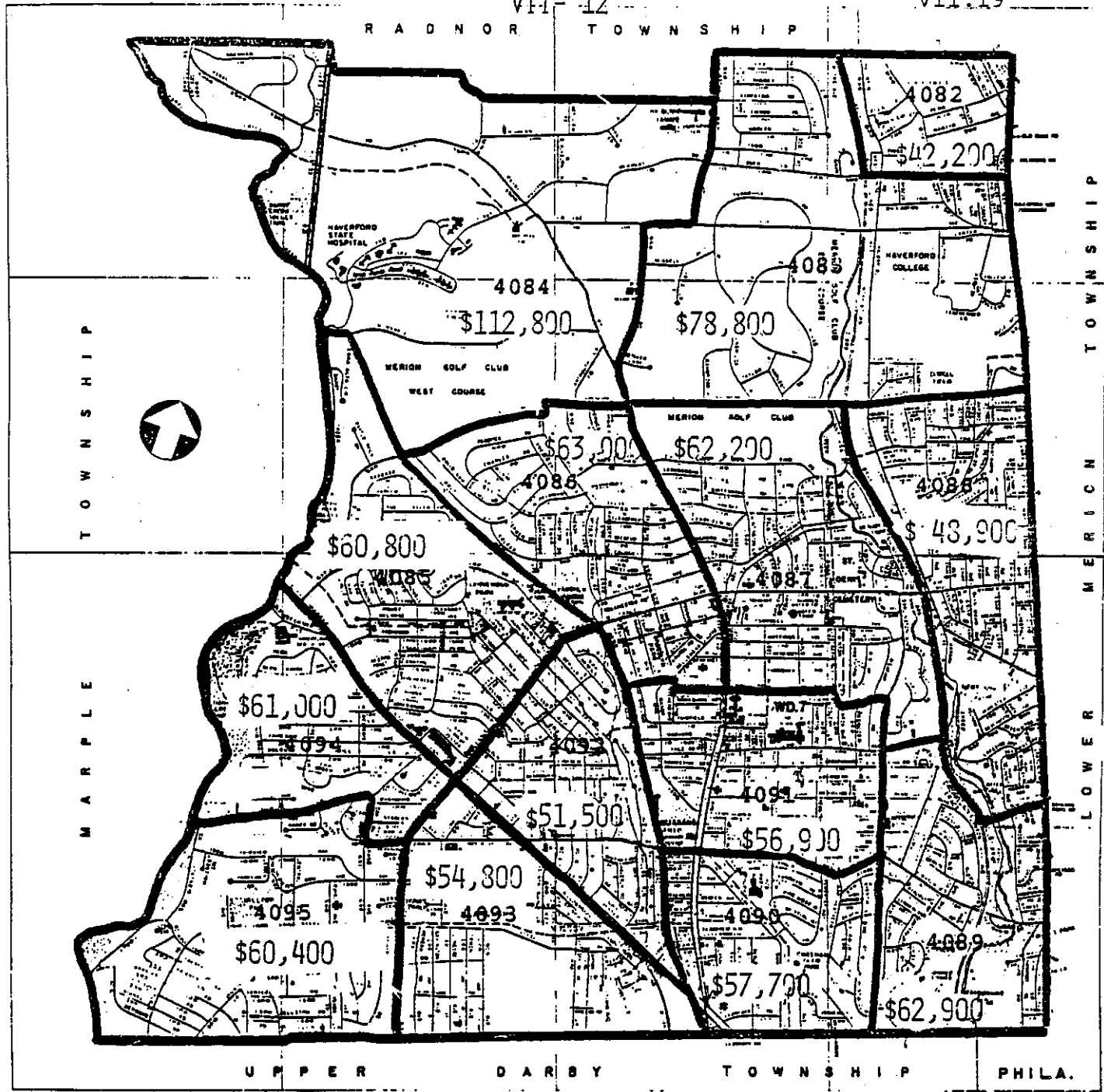
Median contracts rent by census tract are shown in Figure VII-13. The lowest median contract rent is \$199 in tract 4091 (Brookline) while the highest is in tract 4084 with a median contract rent of \$354 per month. The Township's median contract rent is \$264. Households earning less than \$20,000 had to spend in excess of 25% of their income for owner housing costs in 1980. Census data is not reported at the 7.8% level. Correspondingly, 915 households earning less than \$20,000 spent more than 30% of their income on housing in 1980. Thus there was a total of 3,399 predominantly low and moderate income households which spent more than a desirable proportion of their income for shelter in 1980.

Table VII- 11

COMPARISON OF AFFORDABLE SALES AND RENTAL HOUSING FOR LOW AND MODERATE
INCOME HOUSEHOLDS IN HAVERFORD TOWNSHIP IN 1980

ANNUAL INCOME RANGE	NUMBER HSHLDS	AFFRD SALES UNITS	AFFRD RENTAL UNITS	TOTAL AFFRD UNITS	HOUSING GAP	CUMLTV GAP
(2,500	256	0	19	19	237	237
2,500 - 4,999	676	11	72	83	593	830
5,000 - 7,499	797	15	257	292	515	1,345
7,500 - 9,999	976	49	864	913	63	1,408
10,000 - 12,499	929	90	405	495	434	1,842
12,500 - 14,999	949	160	362	522	427	2,269
15,000 - 17,499	1,057	375	274	649	408	2,677
17,500 - 19,999	1,013	563	154	717	296	2,973
TOTAL AFFORDABLE	UNITS	1,263	2,417	3,680		
PERCENT		34	66			

R A D N O R T O W N S H I P



TOWNSHIP OF HAVERFORD

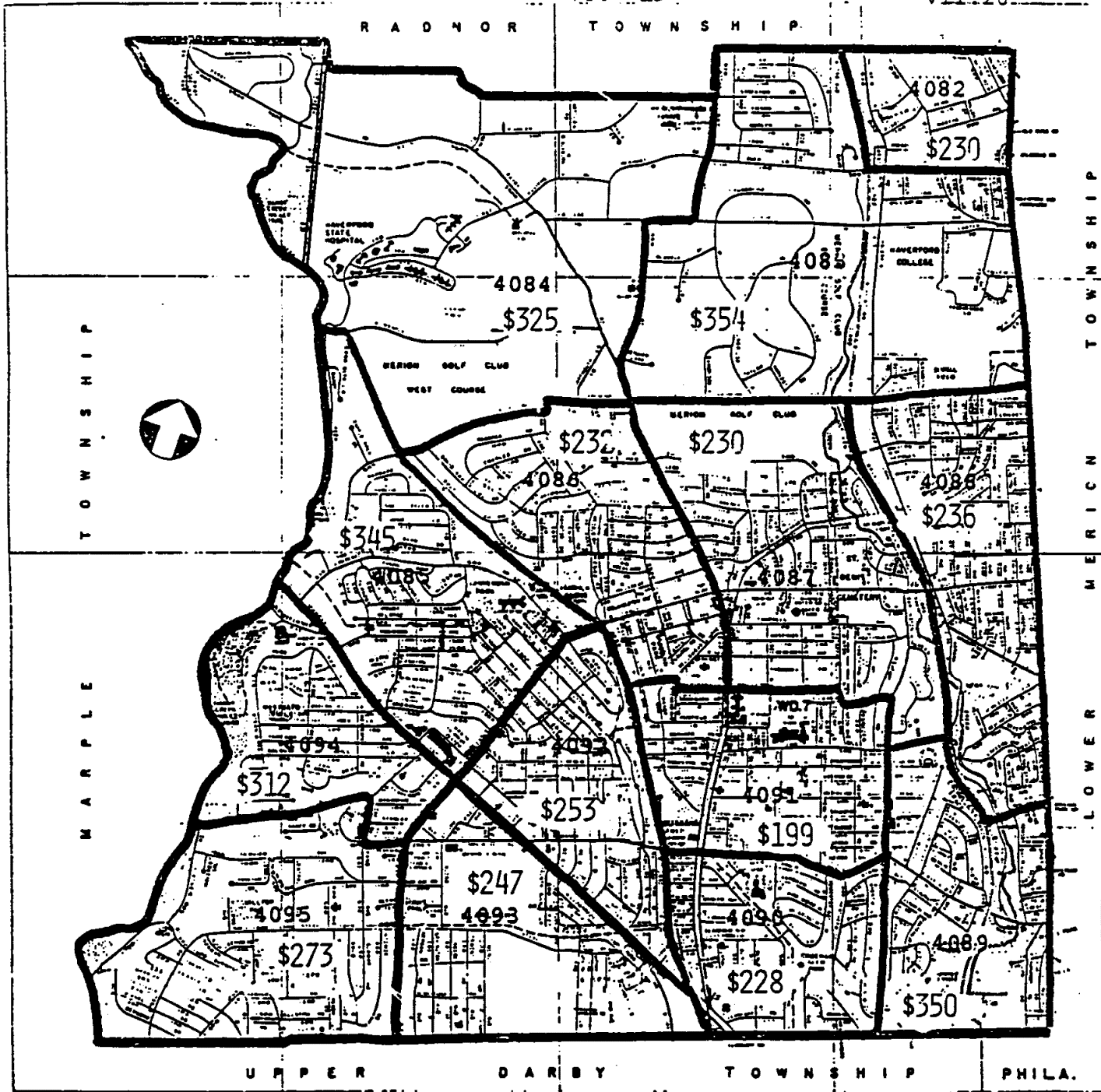
CENSUS TRACTS

JANUARY 1978



1980

MEDIAN VALUE OF HOUSING UNITS BY CENSUS TRACT

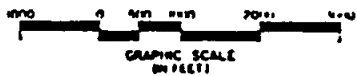


TOWNSHIP OF HAVERFORD

CENSUS TRACTS

JANUARY 1978

1980



MEDIAN MONTHLY CONTRACT RENT BY CENSUS TRACT

Rent

Haverford Township presently has seventeen apartment complexes with ten or more units which offer a total of 1,318 rental units. The largest of these complexes are condominiums, Haverford Hill, with 275 units, and Haverford Village with 160 units. All other complexes are rental units. Complexes with over 100 units include Haverford Park, 168 units; and Robindale with 108 units. Table VII-14 lists these apartment complexes. In addition, there are 423 other units in buildings of less than ten units, and 224 units with roomers, boarders, or lodgers.

TABLE VII-14Major Apartment Complexes in Haverford

Brookline Court, Darby and Kathmere Roads	49 units
Eagle Court, 1226 West Chester Pike	44 units
Eagle Manor, 34 E. Eagle Road	46 units
Eagle Towers, 2323 E. Darby Road	61 units
Haverford Arms, 66 S. Eagle Road	92 units
Haverford Hill, 400 Glendale Road (condo)	275 units
Haverford Park, 800 Ardmore Avenue	168 units
Haverford Village, 700 Ardmore Avenue (condo)	160 units
Hollow Run, 2100 West Chester Pike	64 units
Holly House, 48 W. Eagle Road	37 units
Lawrence Hill, Lawrence Road	64 units
Llanerch Manor, 401 Llanerch Avenue	11 units
Park Court, 1 through 10 E. Park Road	12 units
Robindale, 1905 West Chester Pike	108 units
Southmore Court, 2033 Darby Road	22 units
Whitley Homes, Inc. 2307-2339 Haverford Road	48 units
Wyndmoor, 117 S. Eagle Road	57 units

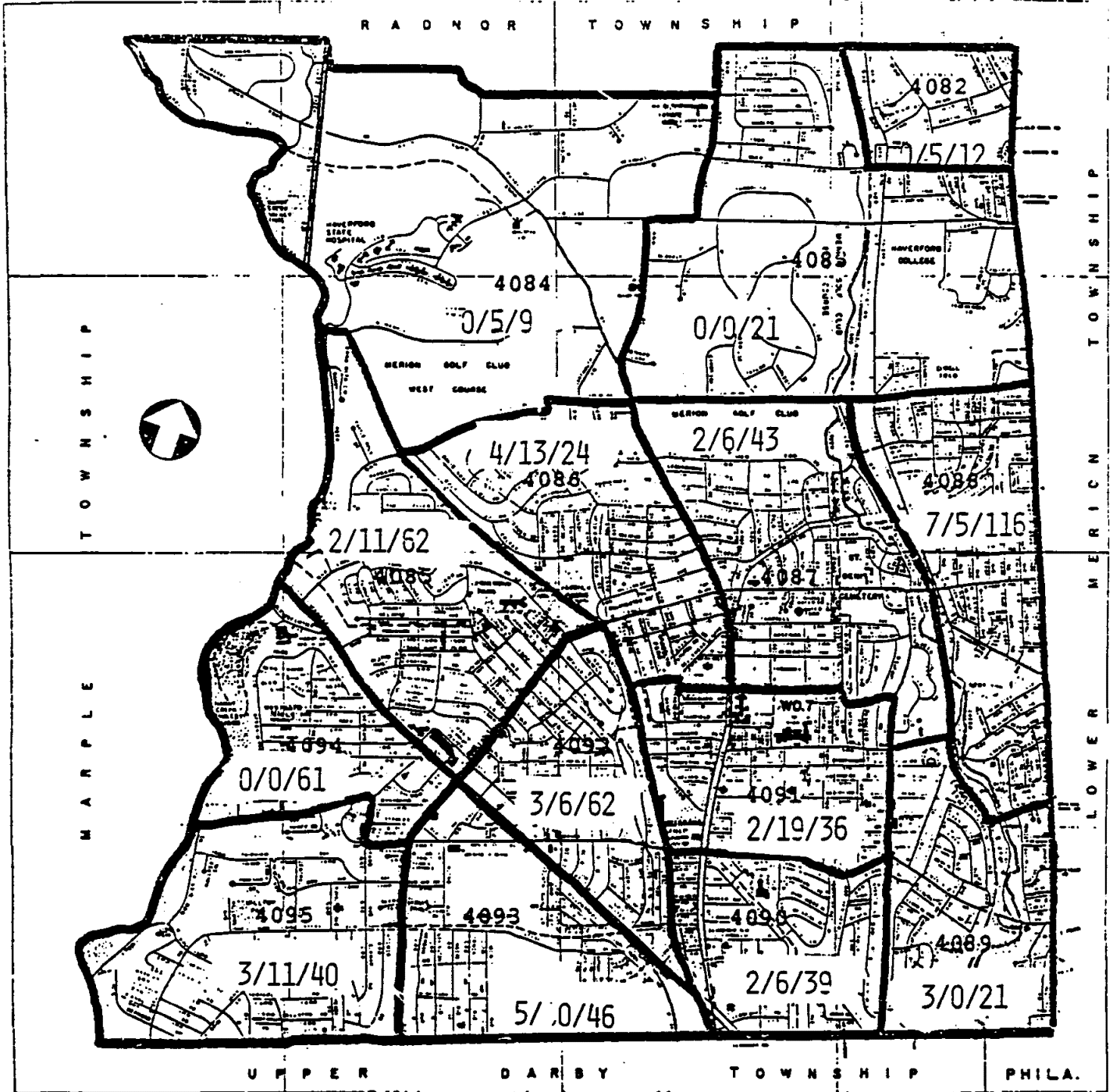
Housing Quality

The census provides a number of indicators of housing deficiencies which may be indicative of substandard conditions. A number of these are shown in Figure VII-14.

The first digit shown in each census tract represents the number of units without complete plumbing facilities. This means that the unit is lacking one or more of the following facilities for the exclusive use of the household occupying the unit: hot and cold piped water; a flush toilet; and a bathtub or shower inside the unit. A total of 33 units in the Township failed to meet these standards in 1980, down from 165 units in 1970. The largest concentration of these units was 7 in tract 4088 in the South Ardmore Avenue tract. No units lacking complete plumbing were found north of Ardmore Ave. or Ellis Roads.

The middle number in the figure represents the number of units without a complete kitchen. These units were missing at least one of the following: an installed sink with piped water; a range or cookstove; and a mechanical refrigerator. 87 units were found in the Township in 1980 without full kitchens. Census tracts 4086, 4091, and 4095 each had more than 10 such units.

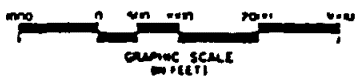
By far the largest indicators of housing deficiency were those associated with a lack of central heating. Although no units in the Township were totally unheated, a total of 592 units relied on such methods as room heaters, either with or without a flue, which burn gas, oil, or kerosene. The number of units in this category ranged from 9 in census tract 4084 to 116 in tract 4080.



TOWNSHIP OF HAVERFORD

CENSUS TRACTS

JANUARY 1978



1930

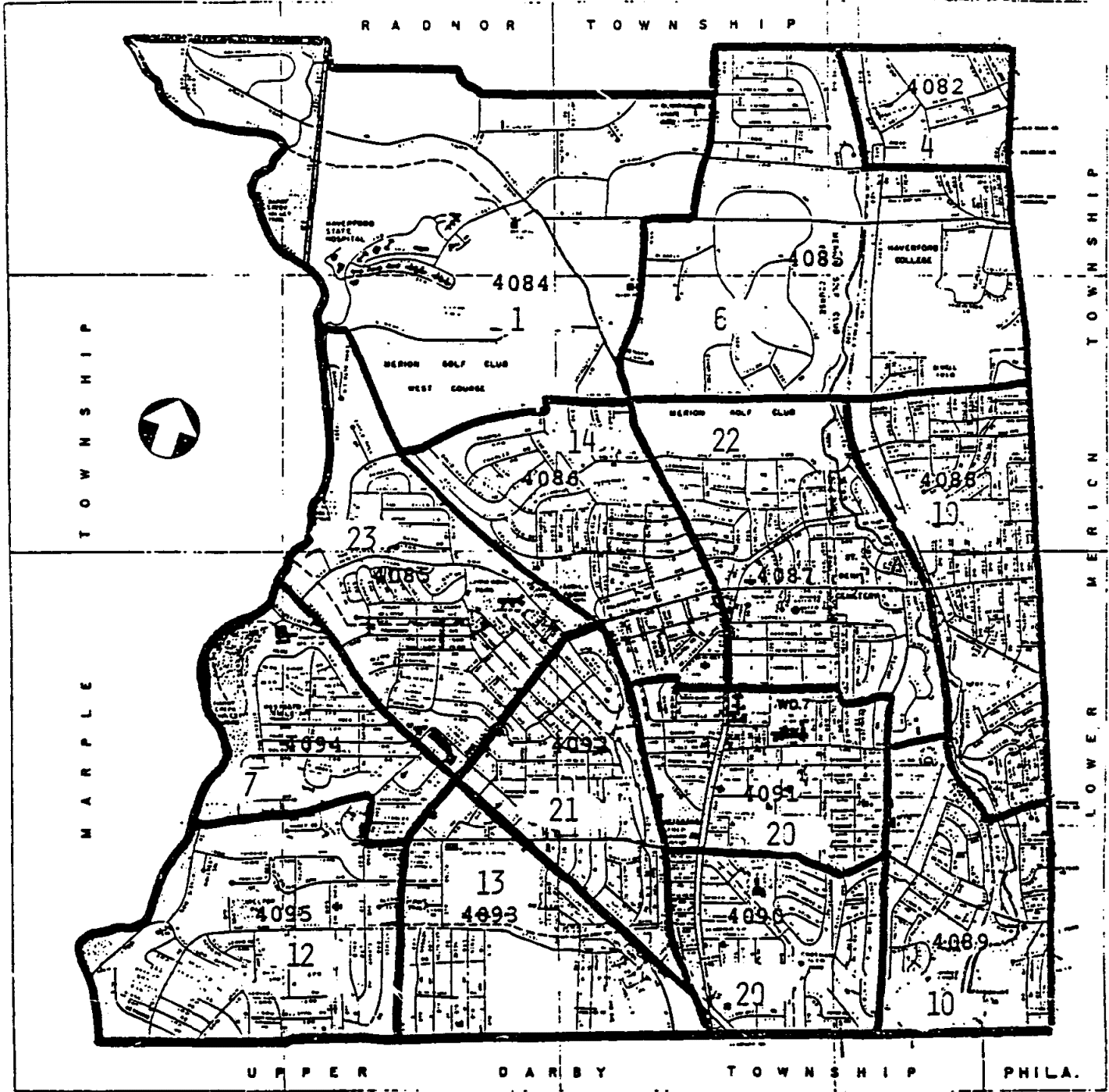
INDICATORS OF HOUSING DEFICIENCY BY CENSUS TRACT

LACKING COMPLETE PLUMBING/ COMPLETE KITCHEN/ AND CENTRAL HEATING PLANT

No units in Haverford Township were reported to be "boarded up" by the census.

Another standard sometimes used to indicate housing deficiency is overcrowded units, defined as those units occupied by households which equal 1.01 persons or more per room. There were 1992 such units in Haverford in 1980. A distinction should be made between overcrowding and the other listed indicators since it is not a characteristic of the unit itself but rather of the household occupying it. This is most often an economic indicator, sometimes caused by a household being unable or unwilling to find larger quarters. The number of overcrowded units has declined from 438 units in 1970.

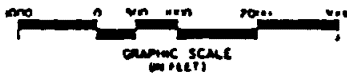
It should be noted that there may be some duplications in the housing deficiency indicators, i.e., the same unit may lack complete plumbing, kitchen, and central heating. The census does note, however, that households with incomes below the poverty level lived in overcrowded units that lacked complete plumbing.



TOWNSHIP OF HAVERFORD

CENSUS TRACTS

JANUARY 1978



1980

OVERCROWDED UNITS (>1.01 PERSONS PER ROOM) BY CENSUS TRACT

Summary

Haverford is primarily a residential community with less than 3% of its land area used for commercial purposes and considerably less than 1% used for industrial purposes. In addition, the majority of the remaining vacant land is zoned residential. Thus the goal of providing "a decent home" for every resident should be of high priority in Haverford.

Haverford today is almost totally developed. Only 84 acres of vacant land remain. The growth of housing units has been declining over the past decades, due to the lack of available vacant land.

40% of the existing housing stock was built before 1940 and is, therefore, 45 or more years old. Thus it became imperative that Haverford concentrate on maintaining its existing housing stock in standard condition. This, in turn, means that a strong code enforcement program must be maintained.

There is little the Township can do about inflation and the high cost of housing. This is not a problem unique to Haverford, but affects the whole region as well. What the Township can do, however, is to support a strong maintenance program. Existing substandard units should be upgraded or replaced. An energetic codes enforcement program should be ongoing to prevent currently standard units from deteriorating into substandard conditions. To accomplish this, a revolving fund program of loans and grants for qualified low and moderate income residents should be considered. This is particularly important due to the age of Haverford's housing stock.

Secondly, the Township must begin to find ways of assisting its low and moderate income families in finding suitable living quarters. The private market cannot be depended on to perform this function as the cost of new construction has outstripped the ability of low and moderate income families to pay. In addition, the lack of room for new construction is hindering the filtering process.

Due to this lack of vacant land, a good portion of the low and moderate income units will have to be provided through rehabilitation of existing deteriorating units. However, it is suggested that vacant parcels near transportation and commercial centers be carefully studied as to their suitability for low and moderate income housing, particularly the higher density uses like apartments and townhouses. This will be discussed at greater length in the Land Use Section.

NOTE

SECTION VIII, CIRCULATION, WAS PREPARED IN
1979 BY THE TOWNSHIP ENGINEER, PENNONI
ASSOCIATES, INC. IT HAS NOT BEEN UPDATED.

VIII. CIRCULATION

Purpose

The purpose of the following project is to prepare a Transportation Element that will be incorporated into the Township of Haverford's Comprehensive Plan.

Scope

The scope of work included the collection of all necessary data in order to depict existing Average Daily Traffic volumes on the Township's roads, to develop a functional classification system for the Township's roads and to identify the deficiencies and problems affecting the existing transportation system.

It also includes the projection of existing (1979) volumes to a horizon year (2000) in order to evaluate the impact vehicular growth will have on the functional usage of the roadways and the existing deficiencies and problems.

The scope of work also undertook the task of establishing ultimate right-of-ways for the Township roads to serve as a consistent and rational guide for Township planning purposes.

Mass transit service was evaluated in the Township to determine its effectiveness from both a local and regional basis.

The scope of work also addressed existing conditions relative to pedestrian and bicycle facilities and evaluates the future needs for these facilities.

Roadway Circulation - 1979

The roadway system within Haverford Township serves a multiplicity of demands for the movement of people and goods as a result of:

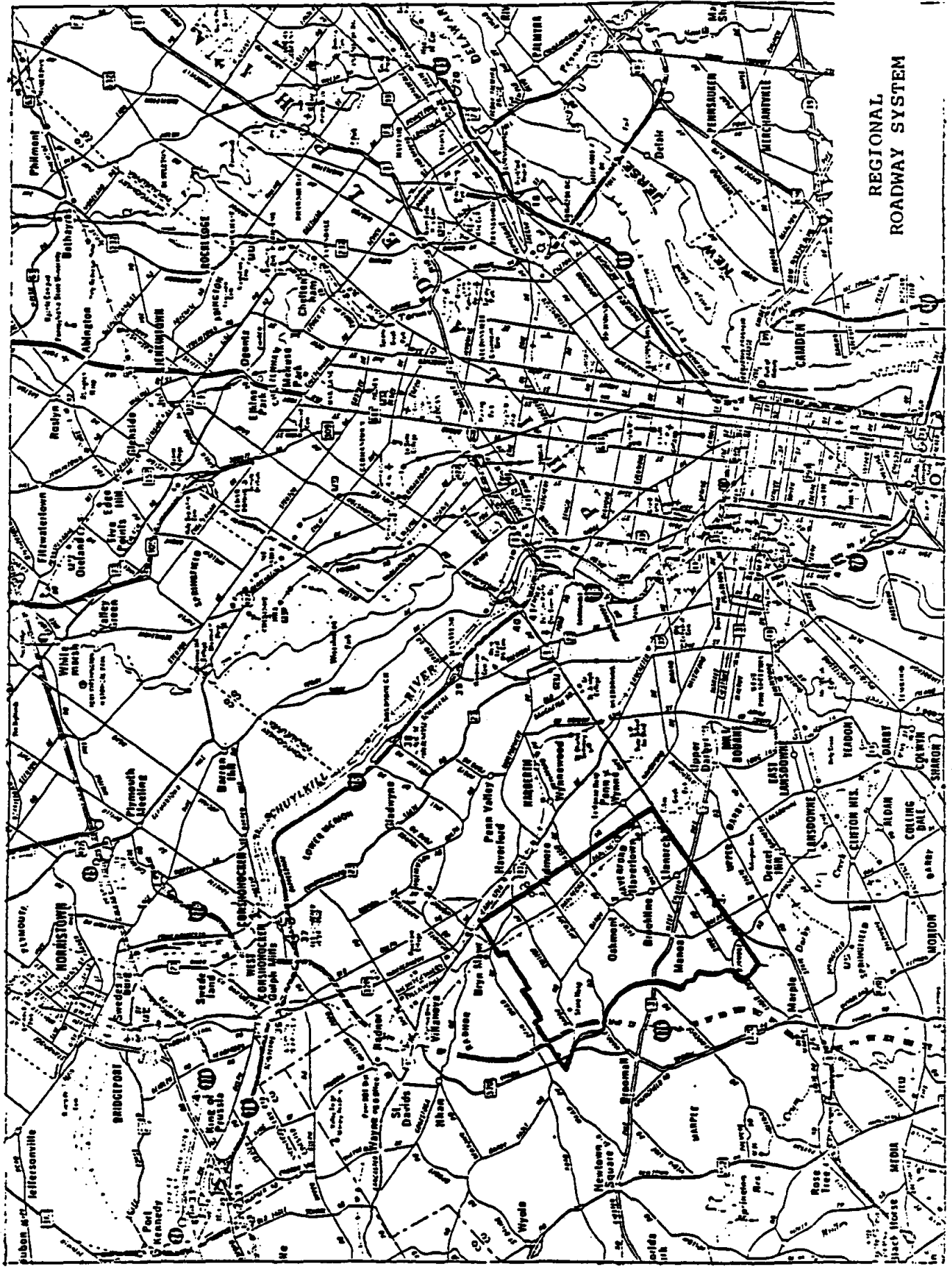
1. its service to numerous types of land uses of varying densities.
2. the interrelationship of the major roadways within Haverford Township to the larger roadway system serving the Delaware County-Philadelphia region.

The existing land use map contained in this report shows the different types of land uses and varying densities that the Haverford roadway system must serve. The following map shows the interrelationship of Haverford's major roadways with the regional roadway system.

As a result of the varying demands placed upon the roadways within Haverford Township, a delineation of the service expected from any particular roadway is desirable to properly plan for the accommodation of such service. This functional classification is predominately based on the characteristics of traffic volumes and types of land uses served.

Accordingly, a functional classification of major roadways within Haverford Township will be determined based on the following definitions:

- Urban Principal Arterials: provide minimal land access with high degree of travel mobility; serve major centers of urban activity and travel generation; generally serve the highest



REGIONAL
ROADWAY SYSTEM

traffic volume corridors and the longest trip lengths thus carrying a significant proportion of the total urban area travel; principal arterial routes should be continuous, both internally and between major rural connections. Average Daily Traffic (ADT) volumes range upwards from 10,000 vehicles.

- Urban Minor Arterials: greater emphasis on land access with a lower level of travel mobility than on principal arterials; include most bus routes not on principal arterials, serve larger schools, industries, hospitals plus small commercial areas not incidentally served by principal arterials. ADT volumes range between 6,000 and 9,999 vehicles.
- Urban Collectors: minimal emphasis on travel mobility, low travel speeds, full land access; penetrate neighborhoods to distribute or collect trips; serve minor travel generators such as local elementary schools, small individual industrial plants, office, commercial and warehouse locations not served by principal or minor arterials. ADT volumes range between 4,000 and 5,999 vehicles.

All other roadways within Haverford Township not covered by the above definitions will be defined as LOCAL roadways, serving low volumes of traffic primarily destined for adjacent land uses which are predominately residential in nature.

The functional classification of major roadways in the area can be seen on the following map.

RADNOR TOWNSHIP

MERION TOWNSHIP

MARRLE TOWNSHIP



YEAR 1979
ADTS AND FUNCTIONAL
CLASSIFICATIONS

TOWNSHIP OF HAVERFORD
DELAWARE COUNTY, PA.

- VEHICLES
- URBAN PRINCIPAL ARTERIAL - 10000+
- - - URBAN MINOR ARTERIAL - 6000-9999
- · · URBAN COLLECTOR - 4000-5999
- · · DISTRIBUTOR - 4000-5999



Average Daily Traffic volumes (ADT) were obtained for all major roadways within the Township from the Pennsylvania Department of Transportation (PennDOT) and the Delaware Valley Regional Planning Commission (DVRPC) for the period from 1971 through 1976. Over this six year period, 114 values of ADT volumes were obtained for various locations along the major roadways which were analyzed.

ADT volumes for 1979 were determined, and an average annual traffic volume growth rate on major roadways was defined through a linear regression analysis of the base data.

The 1979 ADT volumes for the major roadways within the Township can be seen on the next map.

These volumes were analyzed in relation to the physical and traffic control conditions on the major roadways. The Haverford Township TOPICS study, performed by John Comiskey and Associates in 1976, was used as a source reference for this analysis.

Generally, the analysis reflects the need for parking removal along certain major roadways to provide necessary travel width for traffic; roadside clearing of obstacles along certain roadways in the northern and western sections of the Township for needed lateral clearances; geometric and signal timing improvements at numerous intersections; and the widening of Haverford Road between Eagle Road and Landover Road to provide adequate width for movement and storage of all vehicles.

The sections of major roadways that need improvement can be seen on the next map.

An Arterial System-What It Is and How It Functions

An arterial system is an integrated road network designed to serve the needs of all traffic demanding its use. Not all the traffic using an arterial system places the same demand upon it. Because of different traffic demands, an arterial system is composed of roads designed to function in different ways to accommodate the varying needs of traffic.

In accordance with the service it provides, an arterial system is established by the following determinants:

1. A knowledge of existing travel patterns determined by a study of origins and destinations of those people using the roadway and by a study of traffic volumes in the area.
2. The physical conditions of all roads within the affected area. Physical conditions include condition of the roadway surface, the presence or absence of parking, the number of potential stopping points, and other such physical characteristics.
3. The land use of the areas affected, that is, residential, commercial, industrial, institutional or otherwise.





Very basically, an arterial system is made up of three different types of roads, with each type being dependent primarily upon the intended function of that road and to a lesser extent upon physical conditions of the road.

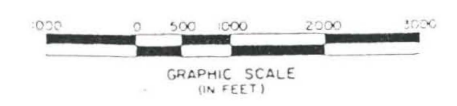
The first and most important type of road is the arterial. The primary function of an arterial is to carry traffic as expeditiously as possible through a given area. It basically serves the needs of traffic which must travel through an area but has no destination in



YEAR 1979
SAFETY AND CAPACITY
DEFICIENCIES

TOWNSHIP OF HAVERFORD
DELAWARE COUNTY, PA.

-  INADEQUATE ROADWAY WIDTH AND/OR ALIGNMENT AT INTERSECTION
-  INADEQUATE LANE WIDTH AND/OR LATERAL CLEARANCE ON ROADWAY
-  RESTRICTIVE OPERATING CONDITIONS DUE TO PARKING AT INTERSECTION
-  RESTRICTIVE OPERATING CONDITIONS DUE TO PARKING ALONG ROADWAY



UPPER DARBY TOWNSHIP PHILA.

the area. To a lesser degree, it also serves the needs of traffic which demands fast movement between points in a given area.

The design of the arterial is dependent upon the relative weights of these two demands as well as the physical and land use limitations in the area affected. Where through-trips are dominant and where it is feasible, a limited access roadway such as an expressway or freeway would be desirable to move the traffic through an area. On the other hand, if there is a relatively equal or a low proportion of demand for through-trips as compared to demand for internal trips, or substantial development exists along the corridor which was intended for an arterial road, then a more conventional roadway or one that allows partially limited or unlimited access should be used.

Needless to say, in an area which is almost totally developed and where major construction or reconstruction of roadways for arterial systems is unfeasible, by-pass routes should be devised or systems which use existing roadways to their maximum possible advantage should be innovated.

The second type of roadway in an arterial system is the collector-distributor road, the function of which is to collect and distribute vehicles within a local area for the purpose of providing access to arterial roads. Collector-distributor roads are not intended to carry the volumes that arterial roads carry. These roads should be located so that they attract traffic from a small, well defined area. Because of their function, collector-distributor roads must have ingress and egress points on arterial roads. They must be desirable to the person immediately near the collector-distributor road so

that he would rather use that road than any other road as a means of getting to the arterial streets, but they must not be made so desirable to use that they take on the function of a short cut between arterial roads or as an established route in the place of an arterial road.

Such a road should also be desirable enough to use as the means of getting from an arterial road to somewhere within the area of the collector-distributor road.

The third and last type of road is the local road. The function of local roads is to provide service for those land uses directly abutting the road itself. It should serve only those people who live or work along such a road. Because of its intended function, such a road should be desirable only to those who must use it.

The function and use of each roadway type is dependent upon the willingness of the public to use these roads for their intended purpose. It is important, therefore, that within the overall roadway system, varying degrees of desirability are attained for the different types of roads which compose the system.

Both major and minor arterial streets should attain the highest level of desirability because of their intended function. To encourage this desirability and to attain a continuous and orderly flow of traffic, any and all kinds of frictional movement should be eliminated or minimized as much as possible on an arterial street. This means that parking should be eliminated not only to allow more roadway for traffic use but also to eliminate the frictional movement caused by vehicles moving in and out of parking spaces. It means the elimination

of stop signs on arterial roadways unless they are absolutely necessary, minimizing the detrimental effect that constant stopping and starting may have on the major movement of traffic.

It means that traffic signals be progressive and synchronized to allow as continuous a movement as is possible on an arterial roadway. It should also mean that, where possible, green time at signalized intersections should favor the arterial roadway. Finally, minor construction to eliminate jogs or to maintain constant widths along arterial roadways is essential to maintain the type of traffic flow needed.

A collector-distributor roadway should maintain a higher level of desirability than a local street but certainly below that of an arterial street. Parking should be removed on a collector-distributor road only where it is necessary to maintain a proper flow of traffic.

Progressive and synchronous movement through signalized intersections should be maintained if possible along collector-distributor streets, but green time should not favor the roadway where it intersects with an arterial street. In the event of a signalized intersection where a collector-distributor roadway and a local street intersect, the collector-distributor street should have precedence in terms of green time over the local street. Stop signs can be maintained at critical intersections along a collector-distributor roadway, but in no case should this mean a stop sign at each block. A constant stopping and starting along any roadway completely undermines its desirability as a collector-distributor street.

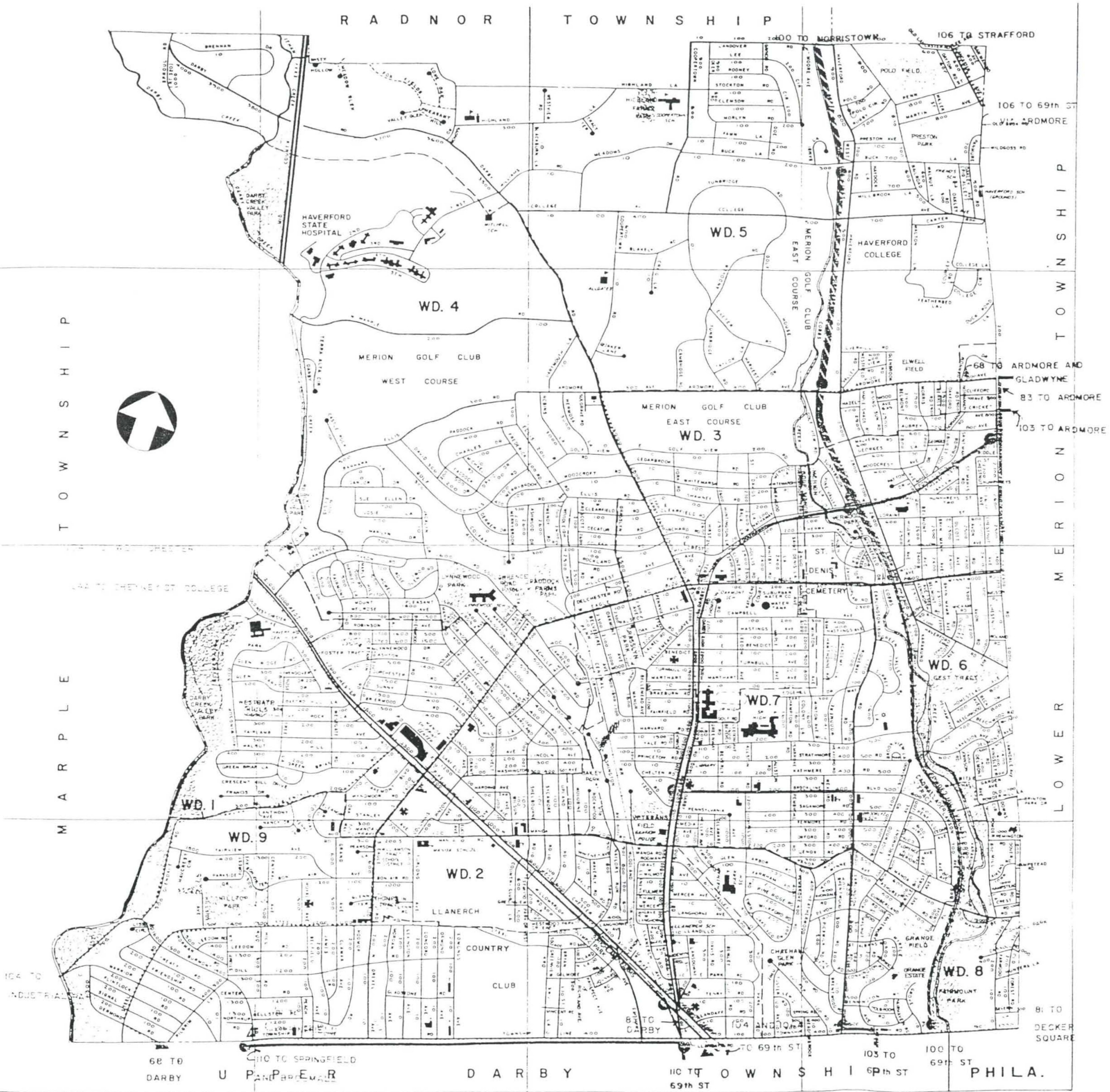
Mass Transit

A survey of existing mass transit service in Haverford Township was conducted. Officials at SEPTA were contacted and schedules for all bus and rail routes in the Township obtained and analyzed. These routes can be seen on the following map.

There are currently eight bus routes and one rail route servicing different areas of Haverford Township. The eight bus routes are part of SEPTA's Red Arrow System and provide access to the following areas:

1. Route 68 runs from Darby to Ardmore and Gladwyne via Pilgrim Gardens.
2. Route 81 traverses City Line Avenue in the Township and goes from Springfield Mall to Decker Square.
3. Route 83 runs from Darby to Ardmore via Darby and Eagle Roads.
4. Route 103 goes from 69th Street to Ardmore via Llanerch and Brookline.
5. Route 104 provides access to West Chester from 69th Street with a peak hour spur to Lawrence Park Industrial Park and a spur to Lawrence Park Shopping Center.
6. 104 A traverses the same route but terminates at Cheyney State College.
7. Route 106 only crosses the extreme northeast corner of the Township on its way from 69th Street to Ardmore and Strafford via Route 30.
8. Route 110 runs from 69th Street to Springfield and Broomall.

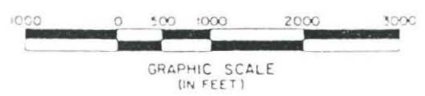
RADNOR TOWNSHIP



EXISTING
MASS TRANSIT
FACILITIES

TOWNSHIP OF HAVERFORD

DELAWARE COUNTY, PA.



- BUS STOPS
- ▲ CONTINUOUS SERVICE
- ▲ PEAK HOUR
- BUS ROUTES
- CONTINUOUS SERVICE
- PEAK HOUR
- ▬ RAIL LINE

The single passenger rail route in the Township is the Norristown High Speed Line which connects 69th Street and Norristown. There are seven stops in the Township from Haverford to West Overbrook.

Geographically, the Township appears to be adequately served with the majority of the routes servicing the denser sections of the Township. However, there are a few deficiencies which should be noted.

The northwestern section of the Township is completely unserved. While presently there is not a strong demand for mass transit in this area and the density at this time does not warrant the provision of this service, consideration should be given to this area in the future in light of the energy crisis and future development of the remaining large tracts of land. In addition, an analysis of census data reveals that 30% of tract 4084 (the northwest corner of the Township) take the train to work.

The other major deficiency is the lack of an east/west route across the Township. No bus runs on Eagle Road west of Darby Road except Route 68, which runs only once, during the morning peak hour. This renders Manoa Shopping Center inaccessible by bus except along West Chester Pike. In addition, several potential generators

within the Township are unserved: Haverford State Hospital, Haverford College and the shops along Eagle Road.

A closer analysis of the Red Arrow bus schedules reveals that only five of the eight bus routes provide service seven days a week and during a major portion of the day. Route 68, as previously mentioned, runs only once Monday through Friday from Darby to Ardmore and Gladwyne (there is no return service). Route 81 (from Springfield Mall to Decker Square) runs only during the A.M. and P.M. rush hours Monday through Friday. Route 106 normally stops at Ardmore, and continues to Strafford only during the A.M. and P.M. peak hours Monday through Friday. In addition, it does not stop in the Township.

The spur of 104 which goes to Lawrence Park Industrial Park provides peak hour service only. The spur of 104 which services Lawrence Park Shopping Center runs only Monday through Friday and not after 8 P.M.

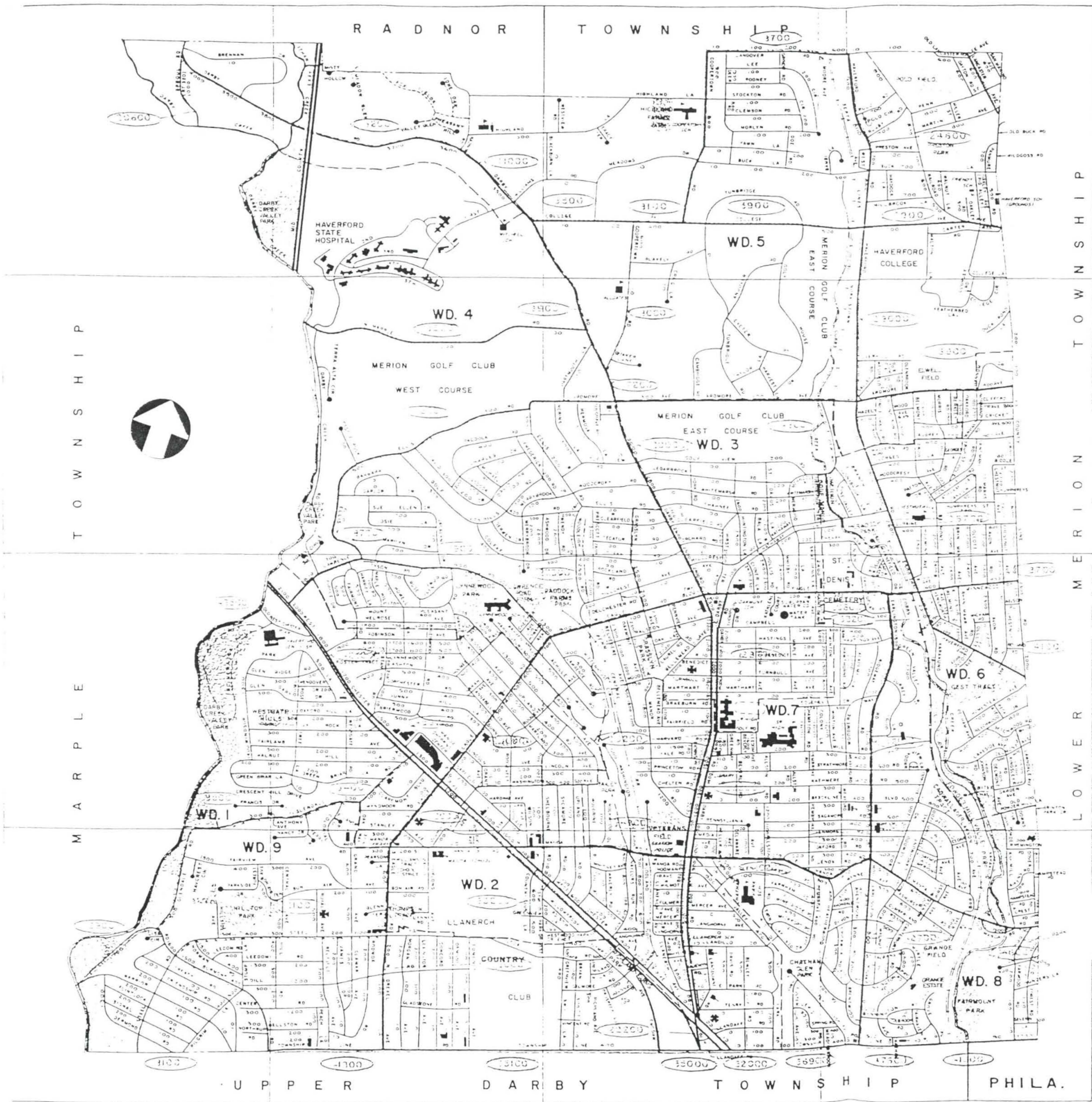
An analysis of census data reveals that some residents of Haverford Township who are elderly or have incomes below the poverty level are not adequately served. Those living in census tracts 4082, 4085 and 4094 are poorly served. 23% of the residents in tract 4082 are elderly and 9% have incomes below the poverty level. 13% of the residents of 4085 are elderly and 4% have incomes below the poverty level. For tract 4094 these figures are 21% and 2% respectively.

In addition, tracks 4091; 4092 and 4093 are serviced by mass transit but the routes are mainly on the perimeter and the walking distance to the various stops are relatively long. All three tracts have an elderly population of approximately 20% and roughly

3% of their residents are living at or below the poverty level.

Finally, a survey of census data on place of work reveals some deficiencies in service. While the majority of Township residents work in Philadelphia, 25% of each census tract works in Delaware County and a substantial number commute to Montgomery County for employment. Mass transit service to these two counties from Haverford is poor.

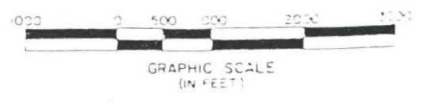
In conclusion, it appears that there is and will be an increasing need for mass transit in Haverford Township based on the percentages of elderly and poor living in the Township. 16.8% of Township residents are 60 years of age and older and 2.4% are living at or below the poverty level. In addition, it should be noted that between 1960 and 1970, the percentage of Township residents aged 65 and over increased by 38%. This growth of the elderly as a percent of the total population within the Township is expected to continue.



YEAR 2000
ADTS AND FUNCTIONAL
CLASSIFICATIONS

TOWNSHIP OF HAVERFORD
DELAWARE COUNTY, PA.

- VEHICLES
- URBAN PRINCIPAL ARTERIAL - 10000
 - URBAN MINOR ARTERIAL - 6000 - 9999
 - URBAN COLLECTOR - 4000 - 5999
 - DISTRIBUTOR - 4000 - 5999



UPPER DARBY TOWNSHIP PHILA.

Projected Roadway Circulation - 2000

The regression analysis of 1971-1976 base volumes, as previously discussed, resulted in a projection of an average annual traffic volume growth rate of 1.6% per year. Even though this is 0.7% below the suggested annual traffic volume growth rate for Haverford Township used by PennDOT and DVRPC during the 70's, we believe our projection is more realistic based on the following:

1. Haverford Township is highly developed with no expectations of substantial development to generate significant increases in traffic;
2. The Township is located within the eastern portion of Delaware County which is also highly developed;
3. The major roadway system serving the western portion of the County, which has the potential for substantial growth, carries traffic around Haverford Township, thereby minimizing the addition of through traffic on the major roadways of Haverford Township;
4. The persistent and escalating problems of energy shortages and inflation are anticipated to have a depressing effect on traffic volume growth in the foreseeable future.

Accordingly, based on an average annual traffic volume growth rate of 1.6%, ADT volumes for the year 2000 on the major roadways within Haverford Township can be seen on the next map.

It is important to note that the proposed I-476 (the Blue Route) is not included in the year 2000 projection or analysis. This is due to the uncertainty of the completion of this roadway. However, even with the inclusion of this roadway, as presently

designed by PennDOT, its impact on traffic patterns and volumes within Haverford Township will primarily be concentrated in the western section of the Township. West Chester Pike (Route 3) traffic volumes would be expected to increase significantly at the proposed interchange connection with I-476, and Sproul Road (Route 320) volumes would be expected to decrease significantly through a displacement of vehicles to the I-476 facility.

The projected volumes and anticipated land uses along the roadways within the Township result in the recommended functional classification of major roadways for the year 2000 as seen on the next map.

Ultimate Right-of-Ways

A system of ultimate right-of-ways for Township roads is an essential tool for long range planning. With such a tool, local officials can prepare for and control the impact on local roads from changing land use patterns. Once such a system is established, the necessary land can be set aside as the adjacent properties are developed or redeveloped.

A system of ultimate right-of-ways was delineated for Haverford Township based on a survey of existing planning and engineering literature and design standards from the subdivision ordinances of several municipalities surrounding Haverford Township. All sampled standards were based on a functional classification of the roadway system, in addition, some considered the average daily traffic volume, and/or the density of the surrounding land use. Several established the right-of-way as the sum of its component parts. However, most ultimate right-of-ways were determined primarily according to the function of the road in question.

Using the functional classification as the common denominator, a range of right-of-way widths will be established giving consideration to the fact that Haverford Township is almost totally developed already. Due to the built-up character of the Township, it could be difficult to acquire right-of-ways that were considerably larger than those existing at this time.

Recommendations: Roadway System Improvements

Based on the projected ADT's for the year 2000, numerous locations have been identified as requiring various types of improvement to safely and effectively accommodate the various modes of travel demands within the Township.

Such improvements include parking removal at intersections and along various roadways in order to provide adequate safety and capacity levels. The parking removal should be minimized by studying each specific location as to the availability of replacing the parking at another appropriate site, preferably off-street.

Spot geometric and maintenance improvements will be required at numerous intersections and roadways to insure adequate sight distances, capacity and alignments. Each identical location will require an individual study to determine the specific and detailed improvements necessary to properly eliminate the capacity and/or safety deficiencies.

The locations of these improvements can all be seen on the following map.

Some roadways will require major type improvements such as widening and lateral clearance improvements.

These roadways are:

1. Baverford Road from the northern Township boundary to Wynnewood Road/E. Eagle Road which should be widened to 64 feet minimum and provide for two lanes of traffic in each direction with a fifth lane for left turns.

2. Darby Road from Sproul Road to Ardmore Avenue should be widened to a minimum of 24 feet and have four to eight foot shoulders.
3. Darby Road from Ardmore Avenue to Eagle Road should be widened to 36 feet.
4. Ardmore Avenue west of Darby Road and Ellis Road from Ardmore Avenue to Lawrence Road should be widened to accommodate a 24 foot cartway width with four to eight foot shoulders.
5. Glendale Road from west of the Industrial Park to the Township boundary should be widened to a minimum of 24 feet with four to eight foot shoulders.

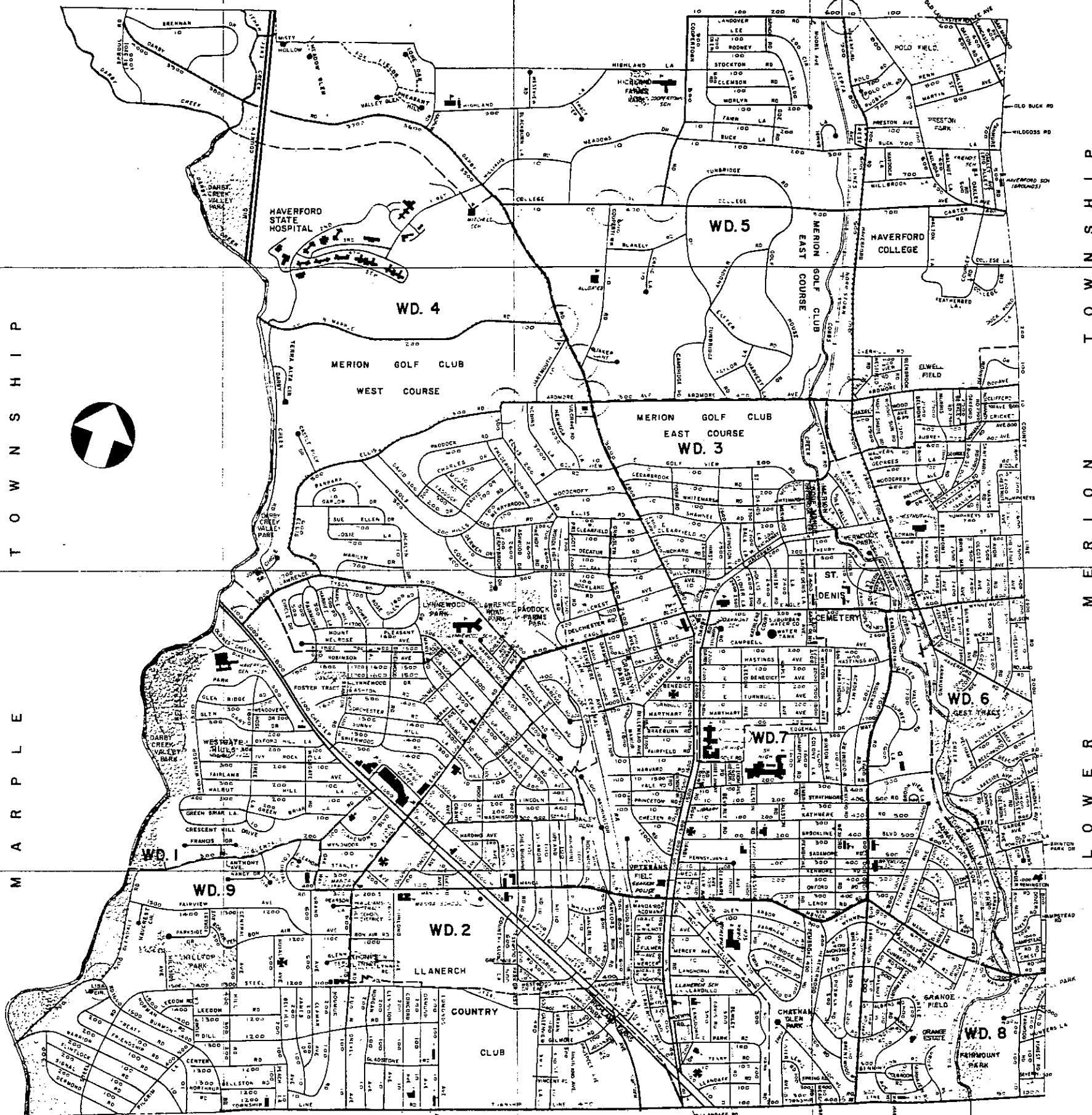
These locations can also be seen on the following map.

The success of the Township Transportation system lies within the capabilities of the Township to systematically implement each of the recommended improvements, thereby insuring that the Township Transportation system can safely and efficiently handle the demands placed upon it.

RADNOR TOWNSHIP

MERION TOWNSHIP

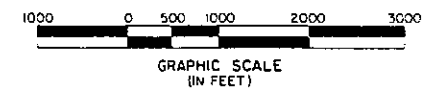
MARPLE TOWNSHIP



YEAR 2000
SAFETY AND CAPACITY
DEFICIENCIES

TOWNSHIP OF HAVERFORD

DELAWARE COUNTY, PA.



- INADEQUATE ROADWAY WIDTH AND/OR ALIGNMENT AT INTERSECTION
- INADEQUATE LANE WIDTH AND/OR LATERAL CLEARANCE ON ROADWAY
- RESTRICTIVE OPERATING CONDITIONS DUE TO PARKING AT INTERSECTION
- RESTRICTIVE OPERATING CONDITIONS DUE TO PARKING ALONG ROADWAY

UPPER DARBY TOWNSHIP PHILA.

Recommendations: Ultimate Row Recommendations

The following system of ultimate right-of-ways was chosen:

Urban Principal Arterial 80' to 100'

Urban Minor Arterial 60' to 80'

Urban Collector 60'

Local Street 50'

The principal function of an arterial is to move high volumes of traffic, with the provision of access to adjacent land uses a secondary function. Arterials can carry up to 25,000 vehicles per day. They should have 12' wide travel lanes and 10' wide shoulders. Right-of-ways should range from 80' to 100' for urban principal arterials and 60' to 80' for urban minor arterials.

Collector streets filter traffic from local streets to arterials or to local traffic generators. Land access is also a secondary, though important, function of a collector. Traffic volumes range up to 8,000 vehicles per day, and right-of-way widths should average 60'.

Local streets should serve only to provide access to adjacent land uses and, in some instances, parking. Thus they carry small volumes of traffic. Right-of-ways should range from 50' for single family residential areas to 60' for multi-family residential areas.

These recommended right-of-ways should provide for necessary roadway and roadside improvements to adequately accommodate the safe movement of traffic, on-street parking where desirable, bikeway facilities, where desirable, and acceptable levels of service for adjacent land uses.

Recommendations: Mass Transit Recommendations

Because of the inherent differences in the type of service necessary for peak hour commuting versus other mass transit use, recommendations will be presented separately for peak hour and non peak hour service. General recommendations to correct existing deficiencies will be presented in each section. For changes in specific route alignments, please refer to the following map. In addition, it should be noted that the recommended locations for additional bus stops are not based on a thorough analysis of transit demand. Such a study should be done in the future in order to more adequately provide mass transit service to Township residents.

There are four primary deficiencies in the peak hour coverage for the Township. These were outlined in a previous section of the report. The following recommendations address these deficiencies.

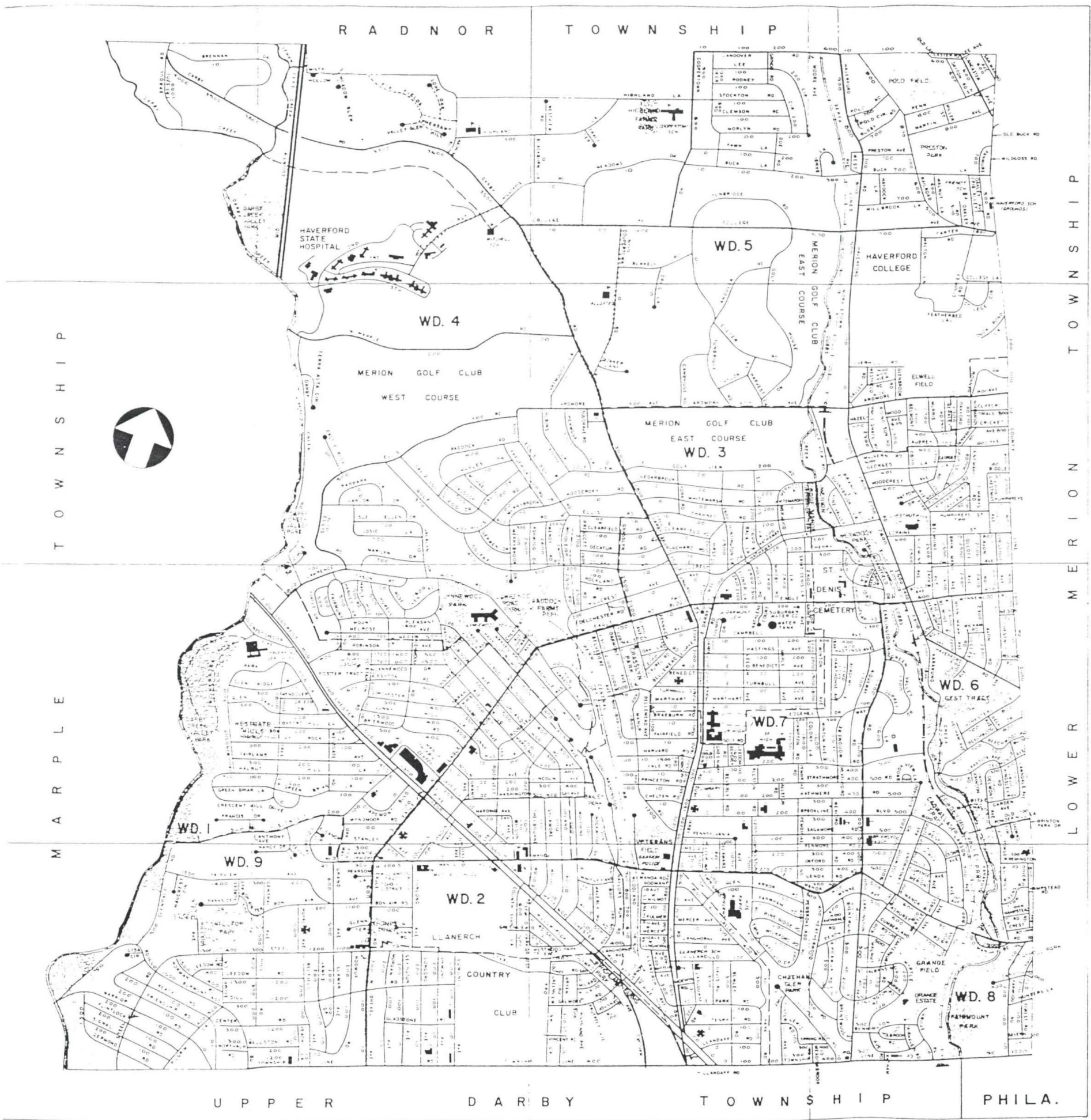
1. Provision should be made for transfers between the bus and rail lines where they cross. At present, this availability is limited to one location in the Township. This will provide for mass transit service for commuters in all directions.
2. The number of stops along most routes should be increased. This will provide for a more reasonable walking distance for the majority of Township residents especially in the more dense southern portion.
3. The frequency of service on the east/west cross township routes should be improved. This will provide more adequate coverage for those residents in the southwest portion of

the Township.

4. A route change should be made to service Haverford State Hospital. This is the only major generator in the Township which is not serviced by mass transit. In addition, this route could service the remainder of the northwest section of the Township which is currently unserved.

There are three major deficiencies with the non peak hour service for the Township. The following recommendations address these deficiencies:

1. A new route should be provided through the heart of the Township along the Eagle Road Corridor. This area is currently unserved except during rush hour. This route would serve Manoa Shopping Center and the shops along Eagle Road.
2. Additional stops should be provided along existing routes to decrease the walking distance currently necessary and better service Township residents.
3. Consideration should be given to the provision of a major transit facility for bus passengers at the intersection of West Chester Pike and Township Line and Darby Roads at some point in the future. Currently six bus routes cross through this triangle and it serves as a cross road for movement along the mass transit system.



M A R P L E T O W N S H I P

R A D N O R T O W N S H I P

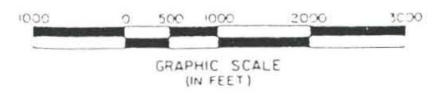
L O W E R M E R I O N T O W N S H I P

U P P E R D A R B Y T O W N S H I P P H I L A .

PROPOSED
MASS TRANSIT
FACILITIES

TOWNSHIP OF HAVERFORD

DELAWARE COUNTY, PA.



- BUS STOPS
- CONTINUOUS SERVICE
- PEAK HOUR
- BUS ROUTES
- CONTINUOUS SERVICE
- PEAK HOUR
- MAJOR PASSENGER TRANSFER

Recommendations: Bicycle Facilities

A recommended, comprehensive bike route system serving all sections of the Township is shown on the following map. The recommended system attempts to minimize conflict between bicyclists and vehicular traffic and also attempts to serve the maximum number of generators conducive to bicycle usage. The recommended system takes into account, to the greatest extent possible, topographical features which are adequate for bicycle movement.

The recommended system provides continuity of movement throughout the Township through the interconnection of north-south and east-west links.

Recommendations: Pedestrian Circulation

While pedestrian traffic in the Township does not presently face serious problems, it is important that efforts are directed toward maintaining adequate measures for the safety and convenience of the pedestrian.

These measures include such items as maintaining properly marked pedestrian crosswalks and school crossing areas, the use of school crossing guards and the maintenance and warranted use of appropriate pedestrian signalization and signing.

Future considerations indicate the need to have new developments in the Township include sidewalks as part of their development plans.

Pedestrian traffic is an integral part of Haverford Township's overall transportation system and must therefore be treated as such.

IX. OPEN SPACE - PARKS & RECREATION

This section analyzes the need for parks and recreation in Haverford Township, and establishes goals and objectives for existing or future parklands.

Standards for the adequacy of parkland have been developed by the Delaware Valley Regional Planning Commission which attempts to relate open space needs to the degree of development within each community. These standards are also used in the Delaware County Open Space, Parks and Recreation Study (Delaware County Planning Commission 1978).

The Delaware County study classified communities on the basis of their population density, and standards were adopted to meet this situation. Haverford Township, with a population density of approximately 5,500 people per square mile, fell into the same category as other communities with densities of 5,000-9,999 persons per square mile. The study divides municipal parkland into three categories: the sub-neighborhood, the neighborhood, and the community park. Regional and sub-regional parks are generally owned by the county, state or federal government.

The sub-neighborhood park consists of roughly $\frac{1}{4}$ to 5 acres of land and serves a population of between 500 and 2,500 persons. It is proposed that the standard for sub-neighborhood parks

should be 0.65 acres per 1,000 population.

Neighborhood parks will generally range in size from 5 to 20 acres. They are intended to serve a population of 2-10,000 people living within a $\frac{1}{4}$ - $\frac{1}{2}$ mile of the park. The recommended standard for neighborhood parks is 2.5 acres per 1,000 population.

Community parks is the largest park category in municipal ownership. They range from 20 to 100 acres in size, and serve a population of 10-50,000 persons living within $\frac{1}{2}$ to 3 miles of the park. The suggested standard for such parks is 3 acres per 1,000 population.

Haverford Township is fortunate in that there is substantial parkland already existent in and near the community. These facilities are detailed in the appendix of this section. However, these facilities may be summarized as follows:

Within a ten mile radius of Haverford Township, a number of sub-regional and regional parks is available to Haverford residents. Included are the Tinicum National Environmental Center on the Delaware River at the mouth of Cobbs Creek (1,250 acres), the Valley Forge National Historic Park (2466.1 acres), the Ridley Creek State Park (2612.6 acres), Philadelphia's Fairmount Park (4076.9 acres), Rose Tree Hunt Park (120 acres), and Smedley Park (78 acres), the latter two of which are operated by Delaware County.

Three community sized parks are located in Haverford Township and account for a total of 166.7 acres. Darby Creek Valley Park consists of 105.7 acres in a nature conservation area. Although a few parcels remain in private ownership, this park encompasses

most of the east bank of Darby Creek, south of Marple Road. A small (33.0 acre) portion of Fairmount Park is located in Haverford along Cobbs Creek, between Township Line and Manoa Road. It is immediately adjacent to Powder Mill Valley Park, (34.0 acres) which extends north along the creek to a point past Mill Road. All of Fairmount Park and much of Powder Mill Valley Park are nature conservation areas, but active recreation is provided near Powder Mill Lane.

Twelve neighborhood parks are owned by the Township: Elwell Field (6 acres), the Gest Tract (11.6 acres), the Grange Field (10.2 acres), Hilltop Park (18.95 acres), Lynnewood Park (6.6 acres), Paddock Farms Park (9.4 acres), Polo Field (19.2 acres), Preston Park (6.1 acres), the Thompson Tract (5.0 acres), Veterans Field (15.7 acres), and Westgate Hills Park (6.0 acres). All provide active recreation except for the Grange, which is both an historic site and a nature conservation area, and the Thompson Tract, which is a nature conservation area. Although all are classified as neighborhood parks on the basis of size, it should be noted that the Grange and Veterans Field both serve to some extent as community parks because they function as the focus for townshipwide activity on occasions. The total acreage of these parcels is 125.3 acres.

Sub-neighborhood parks are Bailey (4.0 acres), the Cadwallader Tract (3.0 acres), Chatham (3.2 acres), Farwood Tot Lot (0.2 acres), the Foster Tract (0.3 acres), Glendale Farms (0.5 acres), Glendale Road (2.2 acres), Highland Farms (3.0 acres), Lawrence Road (1.0 acres), Merion Golf Manor (3.4 acres), Merwood Park

(3.3 acres), Richland Farms Park (2.1 acres), and Walnut Hill Lane (0.9 acres). All provide active recreation except for the Cadwallader Tract and Merion Golf Manor Park, which are nature conservation areas, and the Glendale Farms, Glendale Road, and Walnut Hill Lane Parks, which are undeveloped. 31 acres are devoted to neighborhood parks in Haverford Township.

The recreation needs of Haverford Township, according to the DVRPC standards, are shown in Table 1. Modest deficiencies are found in all categories, both in terms of existing inventory and projected needs for the year 2000 based upon anticipated population growth.

TABLE IX.1

Current and Projected Park Needs in Acres
(Municipal Holdings Only)

<u>Type</u>	<u>Existing Inventory</u>	<u>1980 Required</u>	<u>Deficiency Or Surplus</u>	<u>2000 Required</u>	<u>2000 Deficiency Or Surplus</u>
Community Parks	166.3	157.0	+ 9.3	145.5	+20.8
Neighborhood Parks	125.3	130.8	- 5.5	121.3	+ 4.0
Sub-Neighborhood Parks	31.0	34.0	- 3.0	31.5	- 0.5
Total	322.6	321.8	+ 0.8	298.3	+24.3

Haverford met the standard based on its 1980 population only in Community Parks. A shortfall of 5.5 acres of Neighborhood Parks and 3.0 acres of Sub-Neighborhood Parks was noted. However, as Haverford's population declines towards its projected year 2000 population of 48,500, its existing parkland will meet the standards in every category except for an insignificant 0.5 acre deficiency in Sub-Neighborhoods. Overall, the recommended standards will be exceeded by a total of 24.3 acres when the projected year 2000 population is reached.

These statistics include only those sites owned by municipalities. It must be recognized that school facilities play an important role in meeting the recreational needs of local residents. All educational facilities have recreational facilities incorporated within them. Of course, their primary purpose is for education, and hence, with the exception of the Williamson Tract, all contain school buildings which occupy much of the land. School facilities are also restricted to use by students during school hours, but are open to the public after school and on weekends when not otherwise used for practice by school teams. Because of the varying availability of these facilities and the relative percentage of these sites occupied by structures, it was decided to weight them so that .5 of the acreage of community park sized facilities was used. Neighborhood and sub-neighborhood sized facilities weighted .3 and .2 respectively. The impact of these facilities can be seen in tables 2 and 3.

TABLE IX.2
School District Facilities

<u>Classification</u>	<u>Total Acreage</u>	<u>Weight</u>	<u>Adjusted Acreage</u>
Community	29.7	.5	14.9
Neighborhood	39.0	.3	11.7
Sub-neighborhood	9.7	.2	1.9

TABLE IX.3

Current and Projected Park Needs in Acres
(Municipal and Weighted School District Holdings)

	<u>Existing Inventory</u>	<u>1980 Required</u>	<u>1980 Net</u>	<u>2000 Required</u>	<u>2000 Net</u>
Community Park	181.1	158.0	24.1	145.5	36.3
Neighborhood	137.0	130.8	6.2	121.3	15.7
Sub-neighborhood	32.9	34.0	1.1	31.5	1.4
Total	364.4	321.8	31.4	298.3	53.4

It will be noted that, with consideration of the school facilities, the Township meets or exceeds current and projected needs for parkland and in each category.

It must also be noted that there are significant private land holdings in the Township which, although not available to the general public, serve to meet the recreational needs of some Township residents and serve to contribute open space for the benefit of all. The 135.8 acre Llanerch Country Club, is located in both the second and ninth wards, and extends between Township Line and Manoa Roads, east of Greenbriar and Country Club Lanes.

The Merion Golf Club owns two golf courses, the 146-acre East Course along both sides of Ardmore Avenue, west of the SEPTA tracks, and the 127-acre West Course, which is between Marple and Ellis Roads, east of abandoned trackage of the Newtown

Square Branch railroad. Additionally, Haverford College has 53.7 acres of land devoted to athletic and recreational use, while much of smaller private and parochial schools, churches and synagogues have modest areas devoted to recreation.

Despite the apparent surplus of parkland, there are specific neighborhoods where dense populations are not served by neighborhood or sub-neighborhood facilities. The aim of this plan is to identify such areas and to recommend potential solutions. The plan also proposes to build upon the base of existing stream valley holdings so as to complete, to the greatest extent possible, the public control of these environmentally sensitive areas through acquisitions or easement.

The area bounded by Ardmore Avenue, County Line Road, and Haverford Road is primarily served by a tot lot and limited athletic fields. The site has been acquired by the Township and recreational facilities should be retained. Adjacent parkland such as Elwell Field, Merwood Park and the Gest Tract are of limited usefulness because of heavily trafficked streets that must be crossed to reach them. Therefore, retention of recreational facilities at the Chestnutwold School site is recommended.

For the same reasons, it is also recommended that recreational facilities be retained at the recently closed Brookline Elementary School.

The triangle of land between West Chester Pike, Darby Road, and Manoa Road is also in need of another sub-neighborhood park. The neighborhood is adjacent to Veterans Field, Bailey Park, and Richland Farms Park, but these facilities are inaccessible to pre-schoolers because of the need to cross Manoa Road or West Chester Pike. An additional tot lot is, therefore, recommended to serve this area, but vacant land is virtually unavailable because of the near total development of this neighborhood. Land should be acquired in this area by acquisition and demolition, if necessary, but a specific site is not recommended. Such a site may become available through fire or similar disaster. In the interim, consideration might be given to the temporary closing of little travelled local streets for use as play streets. Llanerch Avenue has been suggested for this purpose in the past but met neighborhood opposition.

Grasslyn Field is a sub-neighborhood park serving another densely developed neighborhood in the Oakmont section, south of Eagle Road and east of the former Newtown Square Branch railroad tracks. Current municipal holdings are 2.2 acres, but the tract is adjoined by another 0.4 acre parcel owned by an American Legion Post at Ralston and Grasslyn Avenues. The American Legion Post

is generous with the use of its lands as an adjunct of the park, but its acquisition should be seriously considered if the Post ever decides to sell its property.

Another park and recreation goal in Haverford Township is the completion of the project to preserve open space along Cobbs Creek. To meet this goal, it is recommended that the eastern half of the Baranzano Tract be acquired. This tract is slightly more than two acres, located south of Eagle Road and bounded to the east by the SEPTA tracks, and to the west by Cobbs Creek. This area could be linked by an additional strip of land behind the houses on Wynnefield Drive into a greenbelt which would extend from Merion Golf Club down to the Gest Tract. The land would be used as a nature conservation area, perhaps with a nature trail.

Several recommendations can be made to complete the greenbelt system along Darby Creek. These are the acquisition of a house, a 13,500 sq. ft. lot on Burmont Road by Darby Creek, and the acquisition of the vacant lot which is 44,800 sq. ft. directly south of Marple Road and west of Darby Creek Road. In addition, easements should be acquired along Darby Creek on either side of West Chester Pike and along Darby Creek behind Darby and Sproul Roads. Another extension to this greenbelt is also recommended along Ithan Creek. A nature trail for hiking and/or jogging is proposed for the Darby Creek Valley, but its development may be significantly impacted if a decision is made to complete the Mid-County Expressway (Blue Route).

Other general recommendations are the acquisition of the Atlantic Refining Company tract (60,585.6 sq. ft.) as an expansion of the open space of Veterans Park and the acquisition of the gas station (47,600 sq. ft.) north of Manoa Road and west of Darby Road for public facilities development.

It should be noted that shortage of baseball fields exists in the Township. Additional fields might be created at the Gest Tract and on new acquisition proposed for Veterans Field and the Kelso Tract. However, consideration should be given to extending the usage of existing fields with the use of lights for evening games.

Attention is also directed to Richland Farms Park. This park consists of two distinct tracts of land on West Chester Pike at Steel Road. The easternmost tract is principally occupied by a basketball court and should be maintained. The westernmost tract, however, is undeveloped and of little environmental value. The West Chester Pike frontage limits its value for parkland, but gives it great commercial value. Consideration should be given to the sale of this land and the use of its proceeds to acquire other parkland where it is more needed.

APPENDIXPARK AND RECREATION AREAS AND FACILITIES

(1979)

<u>Community Parks</u>	<u>Acreage</u>	<u>Township Location</u>	<u>Facilities</u>
Darby Creek Valley Park	105.7	Various parcels along Darby Creek	Hiking and conservation area. 1 baseball field
Fairmount Park	27.0	900 Township Line	Nature Park
Powder Mill Valley Park	34.0	Cobbs Creek Homestead-Manoa Rd.	1 tennis court 1 basketball court 1 ladder 7 swings 1 sliding board 2 spring toys 2 see-saws 1 set 3 horizon bar 1 barbecue pit 1 water fountain
<u>Neighborhood Parks</u>			
Elwell Field	6.0	700 Ardmore Ave.	2 tennis courts (L) 2 basketball " " 1 baseball field (bleachers)
Gest Tract	11.6	Pelham Avenue	1 tennis court 1 basketball court 1 baseball field 11 swings 3 see-saws 1 monkey bars 2 sliding boards ($\frac{1}{2}$ of area is heavily wooded)
The Grange	10.0	Myrtle Avenue	Historic mansion Wooded trail Gardens

	<u>Acreage</u>	<u>Township Location</u>	<u>Facilities</u>
Westgate Hills Park	6.0	Oxford Hill Lane	4 tennis courts 1 basketball court (bleachers) 1 street hockey area 1 baseball field (bleachers) 1 softball field 14 swings 2 sliding boards 6 see-saws 1 set monkey bars 1 ladder 5 benches 1 storage building 1 bike rack 1 water fountain
<u>Sub-Neighborhood Parks</u>			
Bailey Park	4.0	300 E. Virginia Avenue	1 tennis court (L) 1 basketball court (L) 6 swings 4 see-saws 1 sliding board 1 landlubber
Cadwallader Tract	3.0	Lawson Avenue & Edgewood Road	Nature Park 2 barbeque pits
Chatham Park	3.2	200 Juniper Rd.	1 basketball court 2 bike paths 11 swings 2 see-saws 1 sliding board 2 spring toys 1 landlubber 2 monkey bars 2 benches
Farwood Tot Lot (Carroll Park)	0.2	300 Farwood Rd.	4 swings 2 see-saws 1 landlubber 1 sliding board 2 spring toys

	<u>Acreage</u>	<u>Township Location</u>	<u>Facilities</u>
Foster Tract	0.3	Lynnewood Drive	3 swings 2 see-saws 1 sliding board 2 spring toys 1 landlubber 2 benches ($\frac{1}{2}$ of tract is overgrown)
Glendale Farms	0.5		Undeveloped
Glendale Road	3.5		Undeveloped
Grasslyn Park	2.2	Grasslyn Avenue	2 tennis courts 1 basketball court 1 volleyball court 1 softball field 11 swings 2 see-saws 2 sliding boards 1 set monkey bars 2 spring toys 1 ladder 1 set (3) parallel 1 merry-go-round 1 bike rack 3 benches
Highland Farms Park	3.0	Highland Lane	1 tennis court 2 basketball court (L) 2 softball fields 16 swings 6 see-saws 1 sandbox 1 slide 1 spring toy 1 set monkey bars
Lawrence Road Park	1.0	1400 Lawrence Rd.	11 swings 1 sliding board open grass area
Merion Golf Manor Park	3.4	Cobbs Creek bet. Merwood & Hathaway	Nature Park

	<u>Acreage</u>	<u>Township Location</u>	<u>Facilities</u>
Grange Field	10.2	Cumberland Road	4 tennis courts 2 basketball courts (3 baskets) 1 baseball field 1 softball field 1 football field 14 swings 4 see-saws 1 sliding board 1 sandbox 2 monkey bars 2 ladders 1 set of 3 horizontal bars 2 spring toys bleachers
Hilltop Park	18.95	1400 Steel Road	1 tennis court 1 little league field (60 ft. bleachers) 1 baseball field (90ft.) 1 softball field (bleachers) 2 basketball courts 1 football field 1 set monkey bars 15 swings 6 see-saws 1 sliding board 1 ladder 1 bike rack 2 storage-toilet buildings picnic area
Lynnewood Park	6.6	Lawrence Road	2 softball fields 1 baseball field
Paddock Farms Park	9.4	Woodleigh Road	6 tennis courts 1 basketball court 2 softball fields (1 w/bleachers) 1 baseball field (bleachers) 1 street hockey area 1 storage/snack bar building 11 swings

	<u>Acreage</u>	<u>Township Location</u>	<u>Facilities</u>
Paddock Farms Park			1 landlubber 2 monkey bars 2 sliding boards 2 spring toys 1 sandbox
Polo Field	19.2	Railroad Avenue	2 tennis courts(clay) 1 baseball field 3 softball fields 1 football field 2 basketball courts (1 w/out rims) 2 sliding boards 1 monkey bars 21 swings 1 set horizontal bars see-saw pole (no see-saw)
Preston Park	6.1	Railroad Avenue	1 softball field (bleachers) 1 tennis court 1 basketball court 16 swings 3 spring toys 2 sliding boards 1 set monkey bars 2 see-saws 1 ladder 1 storage building 1 water fountain 1 barbecue pit
Thompson Tract	5.0	S. Eagle Road	Nature Park
Veterans Field	15.7	Manoa & Darby Rds.	1 little league field 1 softball field 1 baseball field 1 basketball court (bleachers) 1 tennis court 1 soccer field Skatium 1 street hockey area 1 pistol range (not used) 4 swings 1 sliding board

	<u>Acreage</u>	<u>Township Location</u>	<u>Facilities</u>
Merwood Park	3.3	Wynnefield Drive	1 baseball field 1 basketball court 12 swings 4 see-saws 1 sliding board 2 spring toys 1 set monkey bars bike path (L) 2 bike racks 2 cement tunnels (play) storage building
Richland Farms Park	2.1	West Chester Pike & Steel Road	1 basketball court
Walnut Hill Lane	0.9		Undeveloped

SCHOOL DISTRICT PARK AND RECREATION FACILITIES

<u>Name</u>	<u>Acreage</u>	<u>Location</u>	<u>Facilities</u>
Brookline Elementary	2.0	Earlington Road	1 baseball field 1 basketball court 9 swings 1 ladder 1 sliding board 1 merry-go-round
Chatham Park Elementary	9.5	Allston Road	1 tennis court 2 softball fields 1 basketball court 13 swings 6 see-saws 5 climbing apparatus 1 set monkey bars 1 spring toy 2 tether ball units 1 ladder 1 sliding board
Chestnutwald Elementary	3.9	Loraine Street	1 softball field 1 baseball field 1 basketball court 6 swings 1 spring toy 3 sliding boards 3 gymnastic apparatus 4 see-saws
Coopertown Elementary	12.0	Highland Lane	Open field area for hockey, football, soccer, etc.
Haverford Jr. and Sr. High	29.0	Mill Road	1½ mile track 1 football field (bleachers) 1 baseball field 1 softball field 5 multi-purpose fields 2 basketball courts 4 tennis courts 1 practice wall

<u>Name</u>	<u>Acreage</u>	<u>Location</u>	<u>Facilities</u>
Lynnewood Elementary	7.9	Lawrence Road	2 tennis courts 1 softball field 1 basketball court 17 swings 1 ladder 1 slide 2 landlubbers 1 cement play area 2 bike racks
Manoa Elementary	1.6	Manoa & Furlong	2 monkey bars 4 swings 2 sliding boards 1 ladder 1 bike rack
Oakmont Elementary	2.2	E. Eagle Road	1 softball field 1 basketball court 6 swings 1 set monkey bars 1 sliding board
Williamson Tract	9.6	Manoa & Eagle Rds.	1 baseball field 2 basketball courts 2 softball fields 1 soccer field 1 storage building 2 benches

PARK AND RECREATION AREAS & FACILITIESPRIVATE

	<u>Acreage</u>	<u>Location</u>
Hilltop Swim Club	3.5	Hilltop Drive
Karakung Swim Club	2.0	Karakung Drive
Llanerch Country Club	135.8	West Chester Pike & Manoa Road
Merion Cricket Club East	146	Golf House Road
Merion Cricket Club West	127	Ellis Road

X. COMMUNITY FACILITIES AND UTILITIES

Community facilities are buildings, land, equipment, and activity systems operated on behalf of the public. They include facilities for general government administration, public safety, libraries, recreation, schools, and utilities.

Many community facilities in Haverford Township were created to serve a population of approximately 6,000 persons in the 1920's. Today, the Haverford Township population is more than 50,000 persons and although modernization has occurred, some of these community facilities may have become outdated and may be in need of improvement. This section will review community facilities in Haverford Township and will make a need assessment for the future adequacy of these facilities in serving the public.

Haverford Township Administrative Building

The Haverford Township Administration Building is located at 2325 Darby Road. It consists of two stories plus a basement, each of approximately 2,000 square feet in gross floor area, plus an outbuilding, originally constructed as a garage, which has a

gross floor area of approximately 1,700 square feet. This facility was built in 1916, but within eight years it was felt that the needs of the Township had outgrown the building. As early as January 12, 1925, the Chairman of the Board of Commissioners, George W. Deaves, proposed "that we immediately float a bond issue of \$500,000 for building a new addition to the Town Hall, for building concrete roads, and installing of a fire department."* This effort to expand the building failed as did numerous subsequent attempts to either expand the facility or to build a new one. On several occasions, such proposals were defeated by the electorate on referenda.

In light of this situation, the buildings were renovated to make maximum use of space. The garage was converted to a meeting room for the Commissioners, storage areas, and a caucus room. These areas are now used during the day as well as a conference room, and for certain staff functions. The interior of the Administration Building itself has been remodeled to maximize space on at least three occasions, the most recent being 1985. During these efforts, the basement was opened for more offices, an attic used for inactive storage, and elevators added to provide handicapped access.

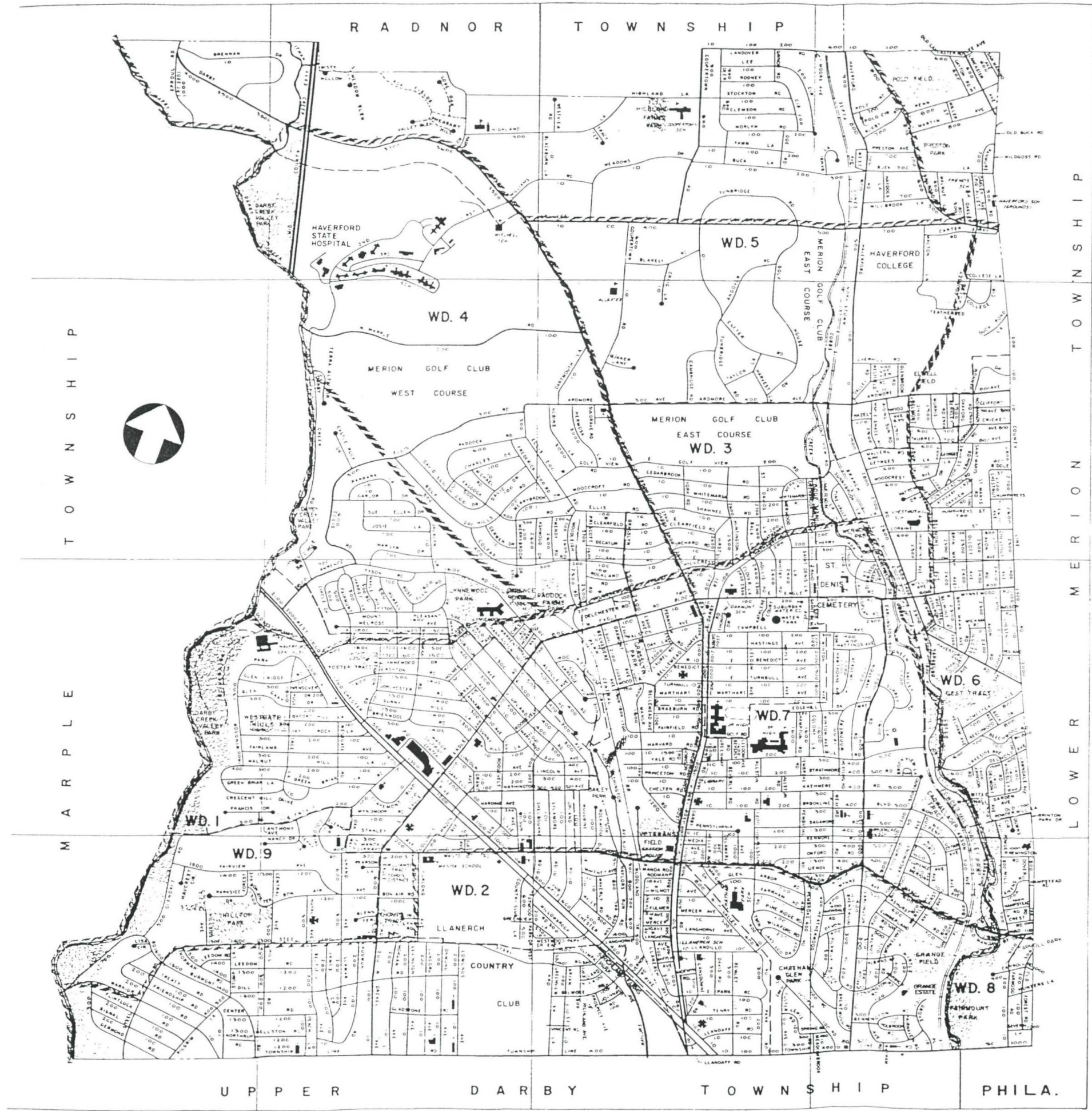
Except for the Director and his Administrative Assistant, the Public Works Department has been removed to a garage and

*Minute Book No. 5, Board of Commissioners of Haverford Township, p. 2.

and maintenance facility on Hilltop Road, and the police operate out of separate facilities at Darby and Manoa Roads. Personnel working at the Skatium and Library are employed at those locations. The balance of the Township staff operates out of the Administration Building, often with four or more employees in a room.

The existing facilities at the Administration Building are thus considered inadequate to meet the needs of the Township. A 1967 space allocation study of the Township performed by the architectural firm of Eshbach, Pullinger, Stevens, and Bruder recommended total office and meeting facilities of approximately 15,000 square feet compared to the 7,700 square feet contained in the existing building and annex. This would accommodate an administrative staff of 37 which, at that time, was felt adequate for future needs. As recently as 1979, the staff working out of the present building consisted of 43 persons. Presently, the staff located at this building is 27, of which 4 are part-time. Even if one assumes an average of approximately 400 square feet per person, which is about what was recommended in the 1967 study, the current reduced staff would require about 10,800 square feet.

A new administration facility is thus a recommendation of this plan. A specific site is not proposed because a variety of opportunities may exist in the future for such a facility. The The Land Use Plan proposes acquisition of additional land at Veterans' Field which could be used for this purpose, or additional land could



T O W N S H I P

M A R P L E



R A D N O R T O W N S H I P
M E R I O N
L O W E R

U P P E R D A R B Y T O W N S H I P P H I L A .

PROPOSED
BICYCLE FACILITIES

TOWNSHIP OF HAVERFORD

DELAWARE COUNTY, PA.



ROUTE ALIGNMENT

be acquired adjacent to the present facility on Darby Road. It is important that the facility be centrally located, but this general condition provides great latitude. Adequate off-street parking and cost constraints will also be factors in final site selection.

Police Facilities

The current Police Station is also over 50 years old. It is located at Veterans Field, Manoa and Darby Roads. Garages on the lower floor have been converted to offices, and the most recent renovation has, for the first time, provided an internal access between the floors by means of a spiral staircase. The building contains approximately 6,200 square feet of gross floor area.

The 1967 space survey referred to above proposed the consolidation of police and administration facilities at a single location. It suggested a total of approximately 14,500 square feet of floor area for the police. This included an indoor pistol range which has been a priority of the police for some time since the former outdoor range was closed several years ago. It also included facilities for the magistrate's offices which would improve the efficiency of the administration of justice by reducing time that police officers would have to spend away from the police station, and would minimize the transfer of prisoners. The magistrates currently lease office space and presumably could lease the same from the Township thus deferring some of the cost of these offices.

The centralization of the police and administrative functions would improve their coordination and result in some construction economies if a joint facility of approximately 30,000 square feet were utilized. The police function should be located on different floors from the administration offices, however.

As was the case with the administration center, a specific location is not recommended, but consideration should be given to an expanded Veterans Field location or to the use of an existing building.

Neither the police nor the administration facilities is likely to be built in the immediate future because of recent renovations. As a result, cost estimates are not provided.

Haverford Township Fire Service Coverage

Haverford Township has five volunteer fire companies. These are the Oakmont Fire Company at 23 West Benedict Avenue, the Llanerch Fire Company at West Chester Pike between Darby and Llandaff Roads, the Brookline Fire Company at 1315 Darby Road, the Bon Air Fire Company at 541 Royal Avenue, and the Manoa Fire Company at 115 South Eagle Road. The service areas for each of these stations are shown on Map I. It will be noted that the existing stations are poorly located geographically in that all five stations are located in the southern half of the Township.

This map demonstrates that the Oakmont Fire Company has the primary responsibility for fire coverage in the northern half of the Township (Table I). In fact, the Oakmont Fire Company has the largest fire coverage zone in the Township, 5.18 square miles or 52.06% of the Township land area. In comparison, the Llanerch, Brookline, Bon Air and Manoa fire companies serve a combined coverage area of 4.77 square miles or 47.94% of the Township land area.

TABLE X-1EXISTING HAVERFORD TWP. VOLUNTEER FIRE COMPANY SERVICE AREAS

<u>Fire Company</u>	<u>Area #*</u>	<u>Acreage</u>	<u>Sq. Miles</u>	<u>% of Twp.</u>
Oakmont	#1	3317.16	5.18	52.06
Llanerch	#2	497.13	.78	7.84
Brookline	#3	838.27	1.31	13.16
Bon Air	#4	491.74	.77	7.74
Manoa	#5	<u>1223.60</u>	<u>1.91</u>	<u>19.20</u>
Totals		6367.90	9.95	100%

} 4.77

} 47.94

*Service areas were defined by the Haverford Township Fire Marshal, November, 1977.

The density of population and dwelling units within these geographic areas should be considered when assessing need for updating the Haverford Township fire service coverage. These figures are shown in Table II. According to the 1970 census, the Oakmont Fire Company serves the largest percent of Township population (35.33%) and the largest percent of Township dwelling units (34.30%). The Manoa Fire Company serves the second largest percent of Township population (24.98%) and in percent of Township dwelling units (26.24%). The Brookline Fire Company ranks third in percent of Township population served (19.50%) and in percent of Township dwelling units served (19.69%). The Llanerch and Bon Air Fire Companies rank lowest in percentage of population and dwelling units served. The Llanerch Fire Company serves 11.28% of Township population and 11.46% of total Township dwelling units, while Bon Air serves 8.91% population and 8.31% dwelling units respectively.

The number of fire calls for each service area should also be considered in a need assessment for updated fire services. The 1977 figure for fire calls show that the Brookline Company ranked first in dispatches with 370, Manoa Company ranked second with 329 dispatches, Oakmont ranked third with 296 dispatches, Llanerch ranked fourth with 227 dispatches, and Bon Air ranked fifth with 219 dispatches.

According to the three parameters of geographic service area, percentage, population, and dwelling units per service area, and the number of fire calls per service area for each of these fire companies, it can be concluded that the Oakmont, Brookline, and Manoa Companies are under most service demand. Service demands on Llanerch and Bon Air are less severe, but Llanerch, like Manoa, also provides ambulance service.

Although the five Haverford fire companies are independent volunteer organizations, all receive an annual operating subsidy from the Township. A small subsidy is also provided to the Merion and Bryn Mawr Fire Companies in Lower Merion Township which also provide backup protection to Haverford. Backup is also provided by the Broomall Fire Company in Marple Township, and the Highland Park Fire Company in Upper Darby but no cash subsidy is provided by Haverford Township.

Additional support is provided to the local companies in that much of the apparatus utilized by these companies is purchased directly by the Township.

Table III reflects subsidies and apparatus for the five Haverford Township fire companies and for three adjacent companies.

Municipal fire departments are evaluated by the Insurance Services Office (I.S.O.) approximately once every ten years. The resulting "Town Fire Defense Report" is important not only because of its comprehensiveness but also because its results have a direct bearing upon the fire insurance rates paid for property located in Haverford Township. The Township was last fully evaluated in August, 1975.

TABLE X-3HAVERFORD TOWNSHIP FIRE COMPANIES

<u>Fire Co.</u>	<u>Twp. Subsidy</u>	<u>Class A Pumper</u>	<u>Mini Pumper</u>	<u>Air Bank</u>	<u>Ladder Trucks</u>	<u>Rescue Wagon</u>	<u>Ambulance</u>	<u>Volunteer</u>
Oakmont	\$15,000	3(1)	0	0	1(0)	1(0)	0	45
Llanerch	\$15,000	2(2)	0	0	1(1)	0	1	40
Brookline	\$15,000	3(2)	0	0	1(1)	1(0)	0	35
Bon Air	\$15,000	2(2)	0	2(0)*	0	0*	0	35
Manoa	\$15,000	2(2)	1(0)	0	0	1(0)**	1	35
Total	\$75,000	12(9)	1(0)	2(0)	3(2)	3	2(0)	190

Note: Township-owned equipment in parenthesis

(0)

The Fire Marshal's office operates 3 Township-owned automobiles and 2 Township-owned paramedic ambulances, used in conjunction with Haverford Community Hospital.

*1 also a rescue Wagon

**Also carries jaws-of-life.

SELECTED FIRE COMPANIES IN ADJACENT MUNICIPALITIES

<u>Fire Co.</u>	<u>Municipality</u>	<u>Hav. Twp. Subsidy</u>	<u>Pumpers</u>	<u>Ladder</u>	<u>Additional Equip.</u>
Merion	Lower Merion	\$550	3	1	-
Bryn Mawr	Lower Merion	\$550	2	1	-
Broomall	Marple	\$0	4	0	1 snorkel and 1 equipment truck
Highland Park	Upper Darby	\$0	2	1	-

The report rated fire protection in Haverford Township is "class 5" on a scale of 1 to 10. Preliminary indications are that the Township will retain this class 5 rating in the new I.S.O. evaluation due shortly. According to I.S.O. officials, this is a relatively strong rating for a community with a volunteer fire department. By way of comparison, the City of Philadelphia, with an all-paid department, has a rating of "2."

The report recommends a need for 8 pumpers and 2 ladder trucks for a community of this size. Haverford currently has 12 pumpers, of which eight are municipally owned, and three ladder trucks, of which two are owned by the Township.

All present companies except Oakmont are well within the American Insurance Association's recommended fire company distribution standards. These standards vary according to the types of uses within the fire district, but generally for residential districts it is recommended that property be within a $1\frac{1}{4}$ mile radius for engine or hose companies and within a two-mile radius for ladder companies. The northern part of the Township does not meet these standards with respect to Oakmont, however, it should be noted that a mutual aid agreement exists with Merion, Bryn Mawr, and Broomall Fire Companies so that increased service demand in this section of the Township can be met. The $1\frac{1}{4}$ mile response radii for each engine company and the 2 mile response radii for ladder companies are shown on the accompanying maps.

Based upon these statistics, the Township appears to be well served by its volunteer companies. It is felt that the one locational deficiency which has been noted above, the extreme northern portion

of the Township, is better served by cooperative agreements with the Bryn Mawr, Merion, and Broomall Companies than by establishing a new company in the Coopertown area. The reason for this lies in the cost of establishing and equipping such a facility and in the traditional difficulties in obtaining volunteer firemen from upper middle and upper income neighborhoods.

In the future, it may become difficult to continue to attract enough volunteers to effectively man all five companies. In this event consideration might be given to the consolidation of the Brookline and Llanerch Companies and of the Manoa and Bon Air Companies. This, together with the Oakmont Company, would provide the Township with three companies capable of providing the Township with protection which would still meet the insurance standards noted above. This would probably require expansion of the existing fire houses or construction of new facilities. Each of the three companies would have a ladder truck, but it might be possible for the Township to reduce the number of municipally-owned pumpers by one or two and still meet I.S.O. standards. Such a consolidation is not likely to occur in the short range future given current strengths of the five companies and recent capital improvements at the Llanerch Fire House.

Haverford Township Paramedic Unit

A Paramedic service is maintained in cooperation with Haverford Community Hospital. Two Township-owned ambulances are staffed and maintained at the Hospital, from which they are dispatched and a

direct radio line is maintained between the Paramedics and the medical staff at the hospital. In addition, Township residents have emergency use of two ambulances (one located at the Llanerch Fire Company and the other at Manoa Fire Company) with twenty-four hour service.

Haverford Township Free Library

The Haverford Township Free Library is located at the corner of Darby and Mill Roads. This building was originally constructed as a bank in 1926 and converted to library use about 38 years ago. This facility was completely renovated and expanded in 1979.

The new library building contains a total of approximately 30,000 square feet. Current holdings are about 116,000 volumes with an annual circulation of just under 300,000.

A shortcoming of the library expansion is the lack of sufficient area for on-site parking. Provision is made for only 16 on-site spaces, which is greatly deficient according to the Haverford Township Zoning Ordinance.

It is, therefore, recommended that the adjacent residence immediately east of the library site (between the library and Greenway Road) be purchased to provide additional 24 off-street parking spaces.

The Skatium

The Skatium is a Township-owned ice rink which serves thousands of skaters annually. Figure, hockey, and recreational skating are regular attractions, as well as special events including the Intercounty Scholastic Hockey Championships. In addition, the Skatium provides a community meeting room.

The Skatium also has the potential for use as a multi-purpose auditorium for special events when not being utilized as an ice rink. This is already done to a limited extent when the ice is removed for a short period during the summer for maintenance. Acquisition of a cover for the ice would increase the adaptability and usefulness of this facility.

Public Works Garage and Maintenance Facility

The Township's Department of Public Works is responsible for a wide variety of functions. It is charged with the collection of solid waste; cleaning, maintenance and minor construction, and snow removal on Township-owned streets; maintenance of public buildings, grounds, and parks; maintenance of all Township vehicles and equipment; maintenance and construction of the storm and sanitary sewer systems; erection and maintenance of signs on Township streets; and care of shade trees within the public right-of-way.

Most of these varied functions are performed from a garage and maintenance facility located near Darby Creek off of Hilltop

Road. Recently park and recreation maintenance operations were relocated to a new Township park off of Glendale Road.

The maintenance facility is adequate for the needs of the Township, but enclosed garage facilities are quite limited. Future consideration might be given to construction of garages for vehicles such as trash trucks which are required on a daily basis.

The School District stores its buses on an adjacent site and conducts limited maintenance here as well. The District also uses a small maintenance garage on Darby Road near Benedict Avenue.

Water Supply

Public water is supplied to Haverford Township by the Philadelphia Suburban Water Company and is available in virtually all areas of the community.

The P.S.W.C. system supplies the needs of 67 municipalities from three main pumping stations on the Pickering, Crum and Neshaminy Creeks. Most of Haverford's water comes from the Crum Creek Station. Water is supplied through a highly integrated water main system. The supply from pumping stations is reinforced as needed by booster pumps and reserve water tanks, including one on Campbell Avenue. Pressure and flow are monitored by the company from its headquarters in Bryn Mawr.

The importance of water for drinking and related uses is well recognized. Perhaps less obvious is its importance to fire fighting efforts. Water for this purpose is provided through a system of over five hundred hydrants leased to the Township by the water company. Generally, hydrant locations are within 600 feet of buildings, which is the minimum standard recommended by the American Insurance Association, although both A.I.A. and the National Fire Protection Association recommend hydrant locations of not more than 300-400 feet of buildings. Isolated locations fail to meet even the 600 foot standard and these deficiencies should be eliminated.

New development in the few areas unserved by public water should be connected to the system whenever practical.

Gas, Electric and Telephone

Natural gas and electric gas is available to all sections of the Township from the Philadelphia Electric Company, a private utility.

Telephone service is available throughout the Township from the Bell Telephone Company of Pennsylvania, also a private utility.

Sanitary Sewers

Haverford Township operates an extensive gravity flow sanitary sewer system which serves all but a few small sections of the northern portion of the Township. The Township lies within two watersheds, that of Darby and Cobbs Creeks, and the sanitary sewer system is similarly divided in order to take advantage of natural

grade. These systems are shown on the accompanying maps.

The western portion of the Township feeds into two interceptor sewers along Darby Creek which are owned by the Radnor-Haverford-Marple Sewer Authority. These interceptors are part of the system maintained by the Delaware County Regional Authority (DELCORA) and are transmitted to Philadelphia's Southwest Treatment Plant.

The eastern half of the Township system is connected to another interceptor along Cobbs Creek which also feeds into the Philadelphia Southwest Treatment Plant.

With the recent elimination of the former Radnor-Haverford-Marple Sewer Authority Treatment Plant on Darby Creek and the completion of a new parallel interceptor, transmission capacity is viewed as adequate for both the Darby and Cobbs Creek Systems.

Storm Water Management

The Township maintains a system of storm sewers which, with a few exceptions, serves most of the Township except for the northwest portion located north of Ardmore Avenue and west of Coopertown Road. Within this area, sewers are provided in the Fox Fields section and along Sproul Road.

The storm sewer system is inadequate to handle storm water runoff in a number of areas within the Township. In some cases, this is because of a total absence of the system, but more commonly it is the result of undersized inlets, culverts, and sewers which are unable to handle waters from heavy rains. Many of these

facilities were designed to handle the waters from a 10-year storm (the likelihood of which is that its flow will be exceeded by one storm every ten years). Current standards of the Township require new storm sewer construction to be designed to accommodate a 25-year storm.

The increased design standards for storm sewers are only part of the problem, however. Older sewers remain inadequately sized. Moreover, even where storm sewers function properly, they simply assure that water reaches a stream quickly without endangering intervening property. Such action may, however, add to downstream flooding problems at a time when natural runoff into these streams is particularly heavy.

The question of storm water management in Haverford Township has been studied in detail by the Township's Engineer, Pennoni Associates, Inc., in reports originally prepared in 1973 and updated in 1975 and 1978.

These reports identify problem areas and prioritize needs based upon the extent of the threat to life and property. The elimination of all drainage problems in the Township would require expenditures in excess of \$10 million and can be practically attached only on the basis of a long range comprehensive program for storm water management. The Pennoni report has broken the most pressing of these needs into two prioritized lists: one for major capital projects and the second for maintenance type drainage projects. These projects, together with estimated costs in

TABLE X-IV
 STORM WATER MANAGEMENT
 CAPITAL PROJECTS

<u>PRIORITY</u>	<u>FLOOD AREA & TYPE OF CONSTRUCTION</u>	<u>TYPE OF FLOODING</u>	<u>EST. COST OF DRAINAGE IMPROVEMENTS (1986)</u>
1.	Braeburn Area Drainage Basin (Oakmont Fire Co.) Storm Sewer Construction.	1 Fire Co. 22 Homes 6 Streets Many yards	\$ 2,425,000
2.	Naylor's Run Rd., Wales Rd., West Langhorne Ave. & Woodland Drive Storm Sewer and Retention Pond Construction.	15 Homes 11 Yards 3 Streets	725,000
3.	Juniper Rd., Spring Rd. & Meadowbrook Rd. Storm Sewer Construction.	12 Homes 2 Streets 1 Park	615,000
4.	Ardmore Avenue Retention Pond Construction.	3 Homes 1 Street	50,000
5.	Wynnefield Drive, Cobbs Creek Channel Masonry. Channel is collapsing.	10 Homes 1 Street 10 Yards	225,000
6.	Stanton Road, Ashton Road & Robinson Ave. Culvert Recon- struction.	2 Homes 9 Yards 2 Streets	130,000
7.	Brierwood Road, Sunny Hill Lane Dorchester Road, Ashton Road.	4 Streets 26 Yards	350,000

SOURCE: Pennoni Associates, Inc., 1978

Costs adjusted to 1986 by use of CPI change.

TABLE X-V

STORM WATER MANAGEMENT MAINTENANCE PROJECTS

PRIORITY	LOCATION	TYPE OF PROBLEM	ESTIMATED COST OF IMPROVEMENT
1	Tunbridge Road	Flooding and Erosion of Yards & Roadway	\$ 80,000 ..
2	Earlington & Hastings	Intersection and Yards Flood	35,000
3	Central Ave. & Steel Road	Icing Problem - Storm Sewers	5,000
4	Powder Mill Lane	Erosion and Flooding of 10 Yards	115,000
5	Panmure Road	Flooding of Roadway	6,500
6	Creek between W. Eagle and Rittenhouse Circle	Flooding of Yards and Erosion within Channel	50,000
7	166 Wyndmoor	Floods Private Yards - Storm Sewer	2,500
8	Lee Circle	Local Flooding and Erosion	115,000
9	Mill Road Area	Local Flooding of Yards and Buildings	150,000
10	2621 Chestnut Ave.	Basement and Yard Flooding	4,000
11	Lawrence Road	Floods Yards - Three Culverts	115,000
12	Creek between Colfax & W. Hillcrest Ave.	Flooding and Erosion - Channel Walls and Widening	45,000
13	Lorraine St. & County Line Rd.	Flooding of Roadway	8,000

SOURCE: Pennoni Associates, Inc., 1978; Costs adjusted to 1986 by CPI change.

1986 dollars, are presented in Tables IV and V.

The Pennoni report also recommends the use of area-wide storm water retention basins where practical, and smaller retention basins or spreader basins to reduce runoff on new developments. These facilities retain water on site and dissipate it at a slower rate so that by the time it reaches streams by means of natural flow or storm sewers, the peak flow caused by the storm will have subsided. Design standards being applied to new development in the Township require that runoff from the property not exceed that which existed prior to development.

Solid Waste Disposal

Solid waste is collected from single-family homes by the Haverford Township Public Works Department. Normal collection occurs on a twice-weekly basis with the pickup of large bulk trash items arranged on an appointment basis.

Disposal is accomplished by the Delaware County Solid Waste Department. Township vehicles deliver the trash to a transfer station located in Marple Township in the Lawrence Park Industrial District. Currently trash is transferred at that location to large vehicles and removed to landfills out of the County.

Uses other than single-family residential are required to engage private trash collection service.

Schools

Haverford Township is served by the Haverford School District, an independent political subdivision, whose boundaries are coterminous with the Township.

The District had a total enrollment of 4,453 students, down from 6,228 students in 1978-79. 1,707 students in grades 10-12 attend the Senior High School, located on Mill Road. The Middle School on Darby Road, has an enrollment of 911 6th to 9th graders. There are currently five elementary schools: Chatham Park, Coopertown, Lynnewood, Manoa and Oakmont. These schools house grades K-5 and have a combined enrollment of 1,835 students. The administration facilities are located on Darby Road adjacent to the Middle School. The District also owns the Llanerch, Brookline and Chestnutwold Schools but none are currently used for elementary education. A Senior Citizens' Center is proposed for the Brookline School.

The School District is required to periodically prepare its own Long Range Plan for development, and such a plan is currently in the preparation stage. As a result, this plan will make no recommendation with respect to the public schools.

Haverford College is the only institution of higher learning located in the Township. It is a private four-year liberal arts college. There are numerous public and private colleges and universities in the Philadelphia area.

X1. ENERGY

The purpose of the Energy Section of the Comprehensive Plan is to provide information on energy usage and consumption, to raise awareness of energy issues, and to encourage energy conservation in Haverford Township. The need for energy conservation is imperative; availability of energy is a serious problem and the present consumption rate is fast becoming detrimental to current life styles.

This section realizes the important function which local governments have in managing energy usage in the community, and makes an effort to establish energy conservation practices within the Township.

Vehicular gasoline conservation practices can be best influenced by policies at the state and national levels, although the Township could certainly examine its own patterns of vehicular use. Nonetheless, a significant impact on energy usage can be made by emphasizing conservation techniques in building requirements and land use planning. This section seeks

to achieve these goals by applying energy conservation measures to construction of new buildings, and encouraging the retrofit of existing homes and buildings with conserving alternatives. The plan also seeks to promote appropriate zoning controls and land use requirements which would support energy conservation efforts and to suggest tax incentive programs for energy related improvements.

Oil and utility provided gas are the dominant forms currently being utilized to heat homes in and around Haverford Township. Utility gas heated half of all Township homes in 1980 with fuel oil and kerosene accounting for another 45%. Electricity was used to heat just over 4% of the homes. All of the remaining heating sources combined accounted for less than 1% of the homes. This included bottled, tank or liquid propane gas, coal and solar energy. No unheated homes were found.

TABLE XI-1

FUEL SOURCE FOR HOME HEATING1980

	<u>Number</u>	<u>Percent</u>
Utility Gas	8,442	50.0
Bottled, Tank or Liquid Propane Gas	67	0.4
Electricity	730	4.3
Fuel Oil, Kerosene, etc.	7,609	45.0
Other	44	0.3
None	0	0.0

The significance of these figures is that fuel oil, natural gas, and most alternative fossil fuels are in short supply. Known and anticipated resources are finite, and most experts do not expect these reserves to last out the end of this century. The one exception is coal, which is in ample supply, but its usage is limited because of its negative environmental consequence. At the same time, alternative non-fossil fuels are unable to effectively meet the demand at the present time. The use of nuclear energy is currently fraught with uncertainty as a result of fears over its safety, and technology has not advanced sufficiently to make newer forms of energy usage cost effective. These "newer" energy forms include geo-thermal power, solar energy, and the harnessing of the power of wind and tidal action. Hydroelectric power has been effectively utilized for many years, but is unable to currently meet more than a small percentage of our energy needs.

The result is that efforts must be made to reduce fossil fuel consumption and to conserve existing supplies as much as possible.

Voluntary conservation efforts by the residents of the Township need to be encouraged, but voluntary efforts may not be adequate enough. The Township must act within the limits of its authority and power to efficiently manage the community's use of energy. New provisions and stronger controls should be given serious consideration, and adjustments to current standards should be made accordingly.

The following recommendations are suggested as possible conserving actions to be taken by the Township:

Application of energy efficient measures to construction of new buildings: A major area of energy waste is in housing and building design. The local government should set guidelines which require new buildings to be constructed in energy conserving ways. These requirements should be established to eliminate energy waste while maintaining current living standards.

The building code should be updated to encourage such measures as utilization of proper materials and building techniques to reduce heat loss, use of insulation, and use of design and siting techniques which maximize the surface ratio of a building to the sun's exposure.

Housing and buildings should be oriented in such a way that longer walls face north and south, and shorter walls face east and west. The main reasons for this are to expose more surface

area to the southern sunlight in the winter, and expose less area to prevailing westerly winds.

Further recommendations for construction of new buildings would be to have most glass facing south, with overhangings above it. The reason for this is that during the winter the sun travels from east to west, low in the southern sky. Light shines in under the overhangings providing warmth. In the summer, heat will be reduced as a result of the overhangs which keep sunlight out since the sun rides higher in the sky during that season. In this way, heat gain is kept at a minimum in the summer and at a maximum in winter.

Placement of rooms is also a concern. The living room and other spaces occupied during daylight hours should be oriented to the south. The sunlight will help keep these rooms heated. The bedrooms and other rooms where warmth is not as important should be located on the north side of the structure.

Encouragement of weatherization and retrofit measures to existing structures: In the past, homes and buildings were designed to minimize initial cost and little emphasis was placed on energy conservation in building design. Most homes and buildings in Haverford Township built before energy became a major concern are energy-inefficient. Space heating and cooling is a major problem. Leakage occurs through cracks, wall joints, floors, ceilings, roofs, and poorly fitted windows and doors. The Township should encourage certain actions which

would reduce these energy wastes.

Most savings would come through weatherization and retrofitting measures. Improvement measures would include such things as insulation, storm windows and doors, weatherstripping and caulking.

Insulation technical assistance: Another strategy which the Township may wish to adopt as an encouragement for energy efficiency is a technical assistance program for home insulation. Under this proposal the Township would establish a lending library of manuals and pamphlets on insulation to provide assistance to homeowners for "do-it-yourself" projects. The Code Enforcement Department could administer this project and supplement it with additional advice and suggestions on an as-requested basis.

Application of alternative zoning and land use regulations: The intent of zoning is to segregate similar land uses into specific districts. In many ways, zoning is in conflict with conservation efforts. Zoning encourages larger lot sizes, single-family detached homes and segregated land uses. In other communities these provisions encourage urban spread, although this may be a moot point in municipalities such as Haverford which are almost completely developed. Nonetheless, encouragement should be given to proposals for mixed uses which will place employment and shopping opportunities in closer proximity to residential neighborhoods.

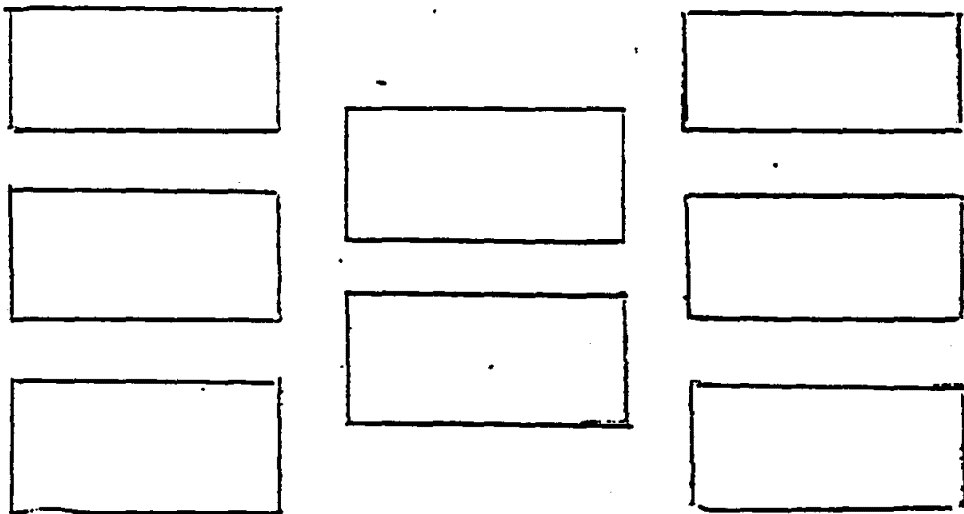
The orientation of the lot and building design to utilize maximum solar benefits have already been suggested. Streets should be designed with as many north and south facing lots as possible.

Clustering and planned residential development (PRD) represent a departure from traditional styles of development. Clustering is already permissible under the Special Residential Development provisions of the zoning ordinance, but mixed uses are not now permissible. Consideration should be given to this technique. Energy-efficiency is one of the benefits of these practices. For example, clustering and higher density reduce energy needed for heating and lighting through the use of common walls and smaller roof area. Closer development also decreases the need for street lighting and dependency of vehicle use. These techniques can be applied in combination with lot averaging so as to keep densities constant and to avoid overburdening of neighborhood facilities.

The orientation of structures to maximize solar benefits has already been suggested. Where street orientation is not conducive to this, considerations should be given to orientation of the home with living quarters facing south, even if this is to a rear or side yard.

Cul-de-sacs have often been favored as a technique for reducing through traffic in residential neighborhoods, but, in

its own small way, it also contributes to wasted gasoline usage because of indirect automobile traffic patterns. Consideration should be given to residential blocks arranged to discourage through traffic, but open at both ends as shown in the following diagram.



Conclusion

Local government can be effective in implementing an energy plan for its community. Energy conservation in the residential and small commercial sectors has the greatest potential for savings, and conservation efforts in these areas should be encouraged by the local government.

XII. IMPLEMENTATION

Much time and money has been expended in the preparation of this Comprehensive Plan. The plan can be an invaluable resource to the Township if it is effectively used and implemented, but otherwise it will slowly gather dust on a bookshelf. The purpose of this section is to briefly suggest ways so that the latter alternative does not occur.

The Comprehensive Plan will be subjected to public hearing so that all affected individuals, establishments, and organizations will have the opportunity to comment on the plan. If appropriate, the plan may then be modified in response to these comments.

It should be noted that the effect of this plan does not stop at the municipal boundaries. Copies of the plan should be distributed to adjacent municipalities so that they may have the opportunity to comment on the impact of this plan upon adjacent locations in their jurisdiction. The plan should also be distributed for comment to the Delaware County Planning Commission, the Montgomery County Planning Commission, whose jurisdiction adjoins the Township's eastern boundary, and to the

Delaware Valley Regional Planning Commission. Copies should be sent for comment to other affected state and regional agencies, such as PennDOT and SEPTA.

This same review procedure should be followed, as appropriate, whenever an amendment to the plan is proposed.

Once the plan has been thoroughly reviewed, it is hoped that it will be adopted by the Board of Commissioners as an official policy statement of the Township.

The plan should then be periodically reviewed and updated as necessary to insure its appropriateness in the face of changing conditions.

The Comprehensive Plan is only one of several land use tools which should be utilized in an integrated fashion to guide the development of the Township in the directions outlined by this plan. Other techniques include the Zoning Ordinance, the Subdivision and Land Development Ordinance, specialized land use ordinances, official maps, and building and housing codes. These legal strategies should also be combined with capital programming and other sound fiscal techniques to allow for the systematic implementation of the public programs proposed herein.

The Zoning Ordinance is one of the most basic tools for guiding land use. It regulates the range of uses permitted in any given zoning district, required yard setbacks, and the permissible height of buildings. Additionally, the Zoning Ordinance contains related standards for landscaping and buffer

areas, off-street parking and loading, and similar requirements. It also provides for a form of cluster development known as Special Residential Development.

Haverford Township was among the first suburban communities in the United States to enact a zoning ordinance, having done so in 1925. This was a year before the practice was legally upheld by the U.S. Supreme Court in its historic Euclid Case. The original ordinance was completely rewritten in 1974 and it is that ordinance No. 1580, as amended, which is currently in effect.

The zoning map is intended to be based upon the Future Land Use element of the Comprehensive Plan; and the Future Land Use Map previously adopted in 1973 was used as the base for the 1974 Zoning Map. This is not to say that there need be a complete agreement between the two documents, for the zoning map reflects current conditions and the comprehensive plan reflects future projections. However, the zoning map should be reviewed after adoption of this plan to determine if immediate changes are warranted in selected locations. Thereafter, the Future Land Use Map should be consulted by the Planning Commission, Board of Commissioners, and by the Zoning Hearing Board whenever zoning map amendments or use variances are proposed.

The zoning text can also be of value in implementing some of the recommendations of this plan. The Energy Section, for example, contains recommendation for consideration of proposals for mixed uses. The mechanism for evaluation of such uses can be accomplished in the zoning ordinance by treating them as

conditional uses to be evaluated with the guidance of standards for approval to insure that development is compatible with adjacent uses and does not create negative external impacts upon them.

Similar techniques can also be included to provide additional design flexibility to assist development of parcels of land which are difficult to work with because of unusual shape or natural features.

The Subdivision and Land Development Ordinance should be used in concert with the Zoning Ordinance to assure that the resulting development of the land is accomplished in a manner which allows for the maximum protection of the environment, adjacent uses, and the public. It applies to the subdivision of land into two or more parcels and to the improvement of land with two or more buildings. It also applies to the division of land or space among two or more prospective occupants. As such, it applies to single office buildings, apartment buildings, and similar structures, as well as to multiple structures.

The current Subdivision and Land Development Ordinance is little more than an outline of review procedures and of information required in the various stages of submission. Design standards are virtually absent and this is viewed as a major shortcoming of the ordinance. This situation allows maximum flexibility to staff in reviewing proposed development and in adopting suggestions to fit individual circumstances. On the

negative side it could lead to a lack of consistency in reviewing proposals (although this does not now appear to be the situation), and it places the developer at a disadvantage by not providing him with a set of design standards in a single source to use in initial planning. Most serious, however, is the fact that the absence of defined standards in an officially adopted ordinance may jeopardize the Township's legal position if challenged for denying an application for development.

The Subdivision and Land Development Ordinance should include design standards for all public improvements, such as streets, sewers, sidewalks, shade trees, and the like. It can also contain regulations for development of steep slope areas, control of storm water, and protection of other environmental features. It is recommended that a major revision of the Township's Subdivision and Land Development Ordinance be undertaken as soon as possible.

Effectively written, the Subdivision and Land Development Ordinance will assist in implementing recommendations of the plan with respect to environmental quality, land use, circulation, and energy.

There are other specialized land use ordinances which can help implement the recommendations of this plan. Currently, the Township has separate ordinances to regulate flood plains, erosion and sediment control, and to protect trees. Surrounding Townships also have steep slope ordinances. These ordinances might be referenced in the Subdivision and Land Development

Ordinance, but they should be maintained as separate ordinances because some forms of development do not come under the jurisdiction of land development ordinances. An example would be a single house constructed on a previously subdivided lot.

Various other codes and regulations of the Township should be reviewed with respect to this plan. The various building and housing codes, for example, can play a significant role in assuring that both existing and new development are maintained in a way which maximizes the public health, safety, and well-being and which prevents the occurrence of blighting influences.

The Pennsylvania Municipalities Planning Code gives communities the right to enact an official map. This little used technique can be an effective way of assisting in the implementation of the plan. It allows the governing body to draft a map showing the exact locations of existing and proposed public streets, waterways, and public grounds.

The designation of these public streets, waterways, and public grounds is not considered a taking or acceptance of the land by the municipality, but makes the public intention a matter of record. Should the owner of such land submit written notice to the Township of his interest in developing the land for private purpose, the Township is granted one year in which to acquire the land or to vacate it from the official map.

While the land is designated on the official map for public use, no building permits may be issued to the landowner. However,

if the landowner claims that the denial of the permit prohibits him from receiving a reasonable return on the land, a public hearing must be held to determine if the permit should be granted.

The preparation of an official map with ultimate road rights-of-way, proposed bikeway routes, and the location of proposed public land acquisition is recommended.

It will be noted that many of the recommendations of this plan require public expenditure, much of it by Haverford Township. Land acquisition and improvement, sewers, street improvements, and similar recommendations are all expensive to implement, and local revenues for these purposes are limited.

Some improvement costs can be passed on to developers who can be required to improve streets, sidewalks, and similar improvements associated with their developments. The Township also has an ordinance requiring the mandatory reservation of land or payment of fees in lieu of land for park and recreation purposes when residential development takes place.

Other costs can be reduced by the use of federal and state grants. These grants usually fall into two general types: categorical grants which are restricted to a limited purpose which must be applied for; and block grants which can be used for a variety of purposes within a broad scope provided for by the appropriate regulations. Included in this category are general revenue sharing funds. Specific recommendation as to the types of available state and federal funding sources are

mentioned in the respective sections of this plan. It should also be noted that foundation funding may be available for specialized purposes not generally funded by government grants.

Some improvements will have to be funded in whole or in part by local revenues. In the past, major improvements have been funded by bond issues and short term notes. This option continues to remain open as the Township has not yet approached the limits of its bonded indebtedness, but it has the disadvantage of requiring interest payments for extended periods of time. This may be economical during periods of rapid inflation, but it generally is utilized only when other sources are not available.

A more practical approach to funding major expenditures is through a capital programming. This mechanism allows the annual reservation of funds for specified purposes proposed for action over a period of five or so years. It thus enables the Township to budget funds for advance projects in much the same way that families save for major expenditures. Capital programming is not a new idea to Haverford Township. A capital budget is required by the Home Rule Charter. It has been suggested that a portion of general revenue sharing funds and funds used for interest and principal payment on expired bonds and notes be used to initiate the capital fund. It could be supplied by other revenue sources as appropriate.

Another technique for financing public improvements should be noted. A Haverford Township Authority was created about 1951 for the purpose of helping to finance public improvements in the Township. The Authority has been inactive for twenty years, but is still legally existent. If reactivated, it would be a legally autonomous body administered by representatives appointed by the Board of Commissioners. The Authority would have the authority to levy taxes to pay for improvements and said tax levy would be excluded from the limits imposed upon the Township. This technique should be kept in mind in view of the fact that the Township has reached its legal taxing limits for most categories of expenditures.

It is hoped that the Comprehensive Plan will be a living document: continually reviewed, refined, and consulted. Its value lies in its use. Its place on a bookshelf is virtually useless.