



MASTER PLAN

of the

TOWNSHIP OF DEPTFORD

First Flight in America

**Planning Board
Deptford, New Jersey**

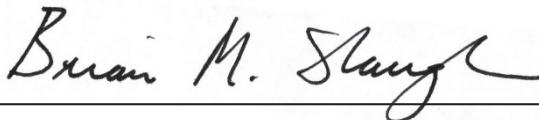
January 11, 2017

Master Plan of the Township of Deptford

Gloucester County, New Jersey

Adopted:
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TABLE OF CONTENTS

INTRODUCTION TO THE MASTER PLAN	I-1
Master Plan Purpose	I-1
Regional Location	I-1
Brief History	I-1
Organization of the Master Plan	I-2
Goals and Objectives Statement	I-3
Conservation Element	I-3
Open Space and Recreation Plan Element	I-3
Community Facilities Element	I-4
Circulation Element	I-4
Land Use Plan Element	I-4
Community Design Sub-Element	I-4
Statement of Planning Consistency	I-5
Housing Element	I-5
Recycling Element	I-5
REEXAMINATION OF THE MASTER PLAN	II-1
Introduction to the Reexamination Report	II-1
Contents of the Reexamination Report	II-2
Major Problems and Policies Identified in the 2002 Master Plan Revision	II-3
Major Problems and Policies Identified in the 2007 Master Plan	II-4
Change in the Status of the Major Problems and Policies of Previous Plans	II-8
Changes in the Assumptions, Policies, and Objectives Underlying the Master Plan	II-12
Recommendations for Goals, Master Plan and Land Development Regulations	II-14
Incorporation of Redevelopment Plans into the Master Plan and Ordinances	II-16

GOALS AND OBJECTIVES III-1

Introduction III-1

Goal: Protect Natural Resources III-1

Goal: Manage Present Conditions III-2

Goal: Envisioning Deptford’s Future III-2

Goal: Improving Deptford’s Environs III-3

CONSERVATION ELEMENT IV-1

Introduction IV-1

Geology IV-2

Description of Formations IV-3

Surficial Geology Map IV-6

Description of Soils IV-7

Soils Map IV-13

Water Supply IV-14

Freshwater Wetlands IV-15

Wetlands Map IV-17

Wetlands Regulations that Affect Development IV-18

Flood Zones IV-18

FEMA Flood Zones Map IV-19

Urban Forests IV-20

Scenic Corridors IV-21

Benefits of Scenic Corridors IV-22

Designation Principles IV-23

Proposed Route 55 Scenic Corridor IV-24

Conservation Land IV-25

Greenways IV-25

Conservation Plan IV-27

Summary and Recommendations IV-28

Conservation Plan IV-29

OPEN SPACE AND RECREATION PLAN ELEMENT V-1

Introduction V-1

Parks, Recreational Facilities, and Open Space Inventory..... V-2

Park Classifications V-4

Table V-1. Summary of Existing Municipal Parks, Conservation & Other Township Lands. V-5

Fasola Park Redevelopment.....V-7

Non-Municipal Government, Land Trust and Other Open Space.....V-7

Table V-2. Non-Municipal Government, Land Trust and Other Open Space V-8

Homeowner’s Association Open Space V-9

Table V-3. Homeowners’ Association Open Space..... V-9

Summary of Open Space ResourcesV-10

Guidelines for the Adequacy of Open SpaceV-10

Active Recreation Needs.....V-11

Table V-4. Youth Sports Organizations, Participants, 2006 and 2014..... V-12

Recreation Programs V-13

Open Space Needs..... V-13

Table V-5. Sites Identified for Preservation and Open Space. V-14

Stream Corridor Preservation and Greenways V-15

Recreational Trails.....V-16

Conservation Techniques.....V-16

Facility Needs.....V-18

Funding for Open Space Acquisition.....V-18

Recommendations for Open Space and Recreation.....V-19

Open Space and Recreation Plan V-21

COMMUNITY FACILITIES ELEMENT VI-1

IntroductionVI-1

Public Educational Facilities.....VI-1

Table V-1. Deptford School Official Enrollment Trends, 2006 – 2015..... VI-3

Table V-2. Deptford School Capacities, 2015 – 2016 School Year. VI-4

Gloucester County Board of Education.....VI-6

Private and Parochial Schools..... VI-7

Higher Education VI-7

Medical ServicesVI-9

Public Safety Services..... VI-10

Emergency Services..... VI-10

Fire Safety Services..... VI-11

Table V-3. Battalion Deployment by Station VI-12

Library..... VI-13

Municipal Building..... VI-13

Municipal Recreation Facilities and Senior Center VI-14

Religious and Fraternal Organizations VI-15

Table V-4. Religious Organizations...... VI-16

Table V-5. Fraternal Organizations in Deptford. VI-16

Summary and Recommendations.....VI-17

CIRCULATION ELEMENT.....VII-1

 Introduction VII-1

 Deptford’s Regional Placement VII-1

 Land Use, Transportation and Congestion.....VII-2

 Accident Data and Identified Congestion Points VII-3

Table VII-1. Highest Crash Intersection in Deptford, 2010 – 2014 (Inclusive). VII-3

Table VII-2. Fatal Vehicle Crashes in Deptford, 2010 -2014. VII-5

 Road Jurisdiction VII-6

Table VII-3. Road Miles by Governmental Jurisdiction in Deptford...... VII-6

Table VII-4. Federal, State and County Roads in Deptford...... VII-6

 Functional Classification Systems.....VII-7

 Circulation Plan Classification VII-8

Table VII-5. Principal Arterial Roads in Deptford Township. VII-8

Table VII-6. Major Arterial Roads in Deptford Township...... VII-9

Table VII-7. Minor Arterial Roads in Deptford Township. VII-9

Table VII-8. Major Collector Roads in Deptford Township. VII-10

Table VII-9. Minor Collector Roads in Deptford Township..... VII-10

FHWA Classification SystemVII-11

Residential Site Improvement Standards VII-12

State Highway Policy..... VII-13

Gloucester County Highway Policy..... VII-14

Table VII-10. Comparison of Proposed County R.O.Ws with Existing R.O.Ws..... VII-15

Complete Streets.....VII-16

Bicycle Facilities..... VII-22

Bicycle Route Plan..... VII-23

Traffic Calming..... VII-26

Additional Complete Streets Recommendations VII-29

Stream Corridor Trail Connections..... VII-31

Bus Transit..... VII-33

Bus Route Plan..... VII-35

Proposed Bus Rapid Transit Service VII-36

New Road Segments..... VII-37

Summary and Recommendations..... VII-39

Circulation Plan..... VII-41

LAND USE PLAN ELEMENT..... VIII-1

Introduction VIII-1

Existing Land Use..... VIII-1

Land Use Categories..... VIII-1

Table VIII-1. Existing Land Use..... VIII-4

Population Trends and Residential Build-Out VIII-4

Existing Land Use Map..... VIII-5

Table VIII-2. Population Change, 1930 to 2010. VIII-6

Table VIII-3. Population, Household, and Employment Projections, 2010 to 2040..... VIII-7

Table VIII-4. Potential Housing Units in Residential and Mixed Use Zones, 2012. VIII-8

Land Use Issues..... VIII-9

Neighborhood Preservation VIII-9

Age-Restricted Housing VIII-11

Single-Family Detached Housing..... VIII-11

Retail Uses..... VIII-12

Table VIII-5. Largest Deptford Shopping Centers - Assessed Value/Sf. 2015..... VIII-13

Office and Medical Uses VIII-15

Mixed Use VIII-15

Industrial Areas VIII-16

Redevelopment Areas..... VIII-16

Sign Control..... VIII-18

Land Use Categories..... VIII-20

Residential Classifications VIII-20

 R-1, AGRICULTURE RESIDENTIAL VIII-20

 R-2, RESIDENTIAL SFD, 1-2 UNITS PER ACRE VIII-21

 R-3, RESIDENTIAL SFD, 2-4 UNITS PER ACRE VIII-21

 R-4, RESIDENTIAL SFD, 4-7 UNITS PER ACRE..... VIII-21

 MF, MULTIFAMILY VIII-21

 AR-1, AGE-RESTRICTED 1 VIII-21

 AR-2, RESIDENTIAL MEDICAL..... VIII-22

Mixed Use Classifications VIII-22

 PUD, PLANNED UNIT DEVELOPMENT VIII-22

 MX-1, MIXED USE 1 VIII-22

 MX-2, MIXED USE 2 VIII-23

Commercial Classifications VIII-23

 NC, NEIGHBORHOOD COMMERCIAL VIII-23

 HC, HIGHWAY COMMERCIAL..... VIII-23

 RC, REGIONAL COMMERCIAL VIII-24

 O, OFFICE VIII-24

Industrial Classifications VIII-24

 O-I, OFFICE-INDUSTRIAL VIII-24

 ROM, RESEARCH, OFFICE & MANUFACTURING..... VIII-24

 LI-1, LIGHT INDUSTRIAL 1..... VIII-25

 LI-2, LIGHT INDUSTRIAL 2..... VIII-25

LI-3, GENERAL INDUSTRIAL VIII-25

RR, RESOURCE RECOVERY..... VIII-25

INS, INSTITUTIONAL VIII-25

OS, OPEN SPACE VIII-26

Summary and Recommendations..... VIII-26

Land Use Plan..... VIII-28

COMMUNITY DESIGN SUB-ELEMENT IX-1

 Introduction IX-1

 Mixed Use Forms IX-2

 Multi-Family Forms IX-4

 Retail Improvement..... IX-5

STATEMENT OF PLANNING CONSISTENCY X-1

 Introduction X-1

 Land Use Policies in Surrounding Municipalities X-1

Westville Borough X-1

Bellmawr Borough..... X-1

Runnemede Borough X-2

Gloucester Township..... X-2

Washington Township..... X-3

Mantua Township..... X-4

Wenonah Borough..... X-4

Woodbury Heights Borough X-5

Woodbury City X-5

West Deptford Township..... X-6

 Compatibility with Regional and State Planning Documents..... X-7

 County of Gloucester, Cross Acceptance Report..... X-7

 State Development and Redevelopment Plan..... X-7

 Summary X-9

INTRODUCTION TO THE MASTER PLAN

MASTER PLAN PURPOSE

The Master Plan is intended to provide a set of policies for Deptford Township that will give guidance to public officials and private citizens on decisions and regulations that apply to the land within the Township's borders. The responsibility for developing the Master Plan lies with the Deptford Planning Board with its authority derived from the planning laws enacted by the New Jersey Legislature. This Master Plan updates and supersedes the 2007 Deptford Township Master Plan.

The structure of planning law in New Jersey requires that zoning and other land use regulations be in substantial consistency with the policies articulated in the Master Plan. Since modern planning law was first established in 1976, the link between a Master Plan and subsequent municipal land use regulations has strengthened in response to environmental and affordable housing law, court cases, and the adoption of the first State Development and Redevelopment Plan in 1992.

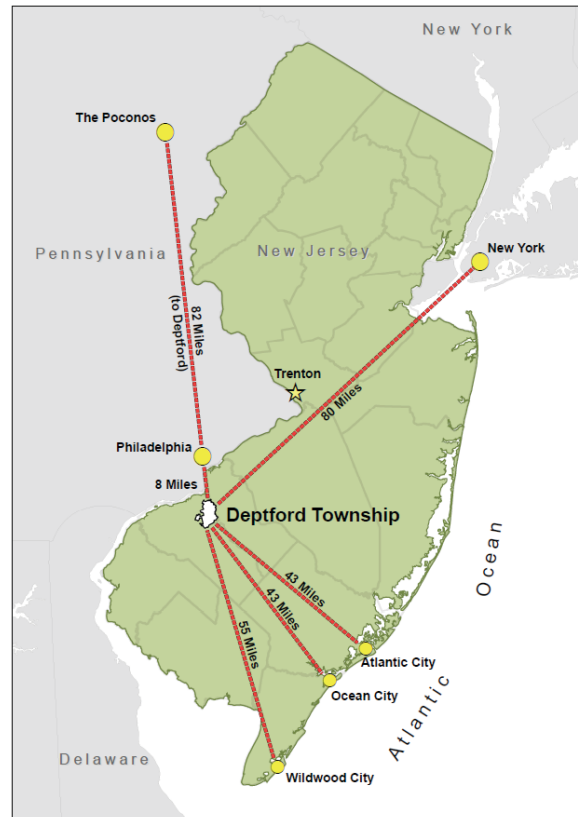
The Master Plan is concerned primarily with the physical and natural environment of Deptford as it affects the use of land. The physical manifestations of land use include buildings, roads and utilities. The Master Plan only secondarily concerns operational or programmatic activities. In this document operational issues are found primarily in the Community Facilities Element and in the Open Space and Recreation Element.

REGIONAL LOCATION

Deptford Township is located in northern Gloucester County, New Jersey, about eight miles from the center of Philadelphia and eighty miles from New York City. The municipality contains 17.5 square miles and has a population exceeding 30,000 people.

BRIEF HISTORY

The Township of Deptford dates from the earliest days of English rule over the colonies after Dutch and Swedish claims to the land were eliminated, sometimes by force. New Jersey was



the province of James, the Duke of York, who was given the land by his brother, King Charles II, in 1664. The Duke of York in turn rewarded two of his loyal courtiers, Sir George Carteret and John, Lord Berkeley, with East and West New Jersey, respectively. Lord Berkeley found himself in financial difficulties and sold West New Jersey to two Quakers in 1673. The part occupied by modern Deptford Township was shortly thereafter owned by Edward Byllynge. Byllynge's land was divided into smaller shares of about 20,000 acres each. Byllynge, along with a group of trustees who marketed the shares, established a common document promising religious freedom, representative government, and fair taxation. These provisions were attractive to a group of Irish Quakers who ended up being the first legal settlers in West New Jersey in 1681, a year before William Penn chartered Pennsylvania. Deptford was established in 1695 as a township under the Crown when it was known as Bethlehem. The Township was about 106 square miles when first established. Deptford was formally incorporated as Township on February 21, 1798 by an act of the New Jersey legislature. Woodbury, Westville, Washington, Woodbury Heights, Wenonah and West Deptford at one time were part of Deptford.

On January 9, 1793, Deptford was the landing site of the first hot air balloon flight in North America undertaken by Frenchman Jean-Pierre Blanchard. Blanchard, an early pioneer of balloon flight, was also the first to cross the English Channel from England to France and undertook the first manned flights in Belgium, Germany, the Netherlands and Poland, as well as the United States. The ascent from Philadelphia was witnessed by then President George Washington, as well as future presidents John Adams, Thomas Jefferson, James Madison, and James Monroe. The landing site is believed to be located next to Big Timber Creek, north of Clements Bridge Road.

The demand for wood for construction and industrial heating from Philadelphia led to felling of forests in Deptford in Colonial times. This wood was floated down the Big Timber Creek and led to the stream's name used today. The forests were also cut to make charcoal used in ironwork, which burned with a more consistent and hotter flame. As the original forest declined and the land was cleared, Deptford became a farming community on the outskirts of Woodbury. A railroad line was established by 1865 in Woodbury that gave more consistent access to markets for agricultural products. The opening of the Walt Whitman Bridge in 1957 and the subsequent construction of Rt. 42 in 1957-59 brought a more direct route to Philadelphia and opened the Township to suburban development. Suburbanizing pressure accelerated with the opening of the Deptford Mall in 1975 and its subsequent retail development that continues to this day.

ORGANIZATION OF THE MASTER PLAN

This Master Plan was developed under the assumption that the general trends of society and the economy will continue without substantial or long-term disruption. The planning horizon for the Master Plan is twenty years though its policies, assumptions and recommendations will be reexamined within the statutory timetable of ten years.

The Master Plan is organized into a set of chapters, referred to as either statements or elements that are concerned with specific topics. Within each element, background information is presented that describes existing conditions. Where appropriate, projections are analyzed to assist in forming the concepts in the Plan. From the concepts, recommendations are made for implementation. This Master Plan includes the following statements and elements:

GOALS AND OBJECTIVES STATEMENT

The Goals and Objectives Statement is a set of principles, assumptions and standards that form the basis for the substance of the Master Plan. Four main goals are established for the Master Plan, including:

- Protecting natural resources;
- Managing present conditions;
- Envisioning Deptford's future; and
- Improving Deptford's environs.

Within each main goal, objectives are established to provide measures whereby it may be determined in the future that the goal has been reached.

CONSERVATION ELEMENT

Within the Conservation Element, the natural features of Deptford are listed and described. This environmental analysis provides information on the natural processes that affect the use of land. Supporting the Conservation Element is a technical appendix, the Environmental Resource Inventory which provides more detailed information concerning the natural resources of the municipality. Criteria for judging the acquisition of land for conservation purposes are established in the element. The organizing concept of greenways is used in the identification of potential open space parcels along stream corridors in the Open Space and Recreation Element. The environmental analysis in the Conservation Element also provides support for the assignment of residential densities and non-residential intensity in the Land Use Plan Element.

OPEN SPACE AND RECREATION PLAN ELEMENT

The Open Space and Recreation Plan Element identifies potential land acquisitions for community open space or the preservation of lands through conservation easements along stream corridors and other significant lands. In general, the municipality seeks opportunities to add to the larger parks in its system so that an integrated approach to recreation encompassing active and passive recreation, and conservation lands together in one park. The

element includes an inventory of existing land for open space purposes, including public lands, lands owned by natural lands trusts and by homeowner's associations. Public active recreation facilities are surveyed along with the number of participants in youth sports organizations that make up the large majority of active recreation programs in the Township. The Township's recreation programs are discussed and compared in the element with the facilities available for hosting them.

COMMUNITY FACILITIES ELEMENT

Community facilities include government buildings, the municipal library, recreational facilities, educational facilities, religious institutions and similar uses that provide services or house programs used by various segments of the public. School enrollment projections are also included in order to plan for orderly improvements under the jurisdiction of the Deptford Board of Education. Additional discussion on recent efforts of the Board of Education to improve the physical conditions of the schools, relieve overcrowding and expand their offerings in education is made.

CIRCULATION ELEMENT

The Circulation Element discusses the means of moving people and goods in Deptford. It describes the network of roads and classifies them according to standard methods. Problem areas in the road network are identified for potential improvements and several new road segments are proposed. In addition to the street network, the Township's bicycle path and pedestrian system is discussed. A system of bicycle routes is proposed. Public transportation routes are described and the potential land use effects of the creation of a Bus Rapid Transit system originating in Deptford are acknowledged. The element includes a section on the design of streets with particular attention to traffic calming measures to address motor vehicle speeding and protect pedestrians.

LAND USE PLAN ELEMENT

The Land Use Plan Element synthesizes the information presented in the background studies of the underlying trends and changes in Deptford. Existing land use is classified and mapped in the element. Population and employment trends are explored for the foreseeable future. Major land use issues are identified and discussed. Based on the other elements and statements of the document, land uses are assigned to specific geographic locations at differing densities of development.

COMMUNITY DESIGN SUB-ELEMENT

Functioning as a part of the Land Use Plan Element, the Community Design Sub-element concentrates on the appearance of buildings and streets in Deptford. The focus of the sub-element is the improvement of commercial development and the streetscape, or the

attractiveness of the public's view from the street. Streetscape elements include landscaping, paving materials, and street furniture.

STATEMENT OF PLANNING CONSISTENCY

A Statement of Planning Consistency with other planning documents in the state and region examines the land development policies of the municipalities surrounding Deptford. It compares the type of use and density of development for adjacent land areas to determine if the policies in the Master Plan create incompatibilities with the land uses in Westville, Bellmawr, Runnemede, Gloucester Township, Washington Township, Mantua, Wenonah, Woodbury Heights, Woodbury and West Deptford. The Master Plan is also compared with the development policies of Gloucester County. Lastly, the Master Plan is analyzed for consistency with the policies of the State Development and Redevelopment Plan.

HOUSING ELEMENT

The Township's response to the obligation for affordable housing is on a different planning cycle than the remainder of the Master Plan. It presently follows the time periods established by the NJ Supreme Court in its March 2015 decision that established a means for municipalities to plan for and become certified through the court system after the state agency that had previously undertaken these requirements was declared 'moribund'. The Township's housing element (dated March 31, 2016) is in draft form in front of Superior Court. The Township can anticipate completing the housing element adoption process sometime in 2017. Therefore, the Housing Element is included by reference but is not otherwise adopted with the remainder of this Master Plan.

RECYCLING ELEMENT

Deptford Township's policy on recycling is embedded in its Recycling Ordinance (codified as Chapter 18-2) that sets forth the types of materials recycled, regulates the disposal of recycled material, and establishes a penalty for failure to comply with these provisions. The Recycling Ordinance is hereby adopted as the Recycling Element of the Master Plan.

REEXAMINATION OF THE MASTER PLAN

INTRODUCTION TO THE REEXAMINATION REPORT

The Reexamination Report focuses on the planning activities of the current Master Plan and prior reexamination report in accordance with the governing statute¹. A reexamination report analyses the Master Plan's policies and determines the degree to which those policies have been affected by subsequent events. These events can encompass a wide variety of effects from economic changes in conditions, changes in the demographic characteristics of the population, adoption of different policies at higher levels of government and similar factors.

The current Master Plan was adopted in November 2007 by the Deptford Planning Board and serves the purpose of guiding development and redevelopment of the Township. The 2007 Master Plan was the culmination of a planning effort that started in late 2006. The prior Reexamination Report was adopted in December 2002 and was combined with several amendments to the 1989 Master Plan.

Since 2007, the Master Plan has been amended several times. The first effort was the adoption of a new housing element in November 2008 to address the second set of third round rules. The housing element, along with various other documents collectively called the "fair share plan" were submitted for certification by the New Jersey Council on Affordable Housing (COAH) as having met the state standard for providing affordable housing at the end of December 2008.

The Planning Board amended the Land Use Plan Element on October 9, 2009 to remove the section that recommended the establishment of a redevelopment plan for the Five Points area in addition to revising the land use classification to a research office and manufacturing use. Subsequently, the Township Council did in fact adopt a redevelopment area for this district and has adopted one redevelopment plan with two more pending.

The third revision occurred with an amendment to the Housing Element on October 5, 2011 to address an Appellant Court decision on October 8, 2010 and add Conifer Village at Deptford and Tanyard Oaks to the list of completed projects. Lastly, on April 3, 2013, the Housing Element was amended again to remove the Tacoma Cove site from the plan because of continuing litigation over its inclusion.

While the 2007 Master Plan was the first comprehensive new Master Plan since 1989, the Planning Board had undertaken reexamination report reviews in 1996 and 2002 coupled with some master plan amendments. The 2002 Master Plan Revision was adopted on October 9,

¹ N.J.S.A. 40:55D-89. The statute requires the reexamination report at least every 10 years.

2002 and was quickly followed by substantial amendments to the zoning ordinance, called the Unified Development Ordinance, in December 2002.

CONTENTS OF THE REEXAMINATION REPORT

The Reexamination Report is a review of the adopted Master Plan, its amendments, and their associated development regulations which often serves as a catalyst for changes in the Master Plan and zoning ordinance. These will provide guidance for public and private purposes by embodying a vision of Deptford's future through development, redevelopment and open space. Whether implicit or explicit, the Master Plan incorporates a vision for the future which is revised over time in anticipation of, or in response to, changing circumstances – whether by economic events, the creation of new land uses, development pressure or changing social trends. The Reexamination Report provides the analysis necessary to determine if new policies and objectives are necessary for the Master Plan and in what specific areas.

By statute, the Reexamination Report is required to cover five specific areas. They include:

- 1) The major problems and objectives relating to land development in the municipality at the time of the adoption of the last reexamination report;
- 2) The extent to which such problems and objectives have been reduced or have increased subsequent to such date;
- 3) The extent to which there have been significant changes in the assumptions, policies, and objectives forming the basis for the master plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition, and recycling of designated recyclable materials, and changes in State, county and municipal policies and objectives;
- 4) The specific changes recommended for the master plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared; and
- 5) The recommendations of the Planning Board concerning the incorporation of redevelopment plans adopted pursuant to the Local Redevelopment and Housing Law into the land use plan element of the municipal master plan, and recommended changes, if any, in the local development regulations necessary to effectuate the redevelopment plans of the municipality.

This document will be primarily focused on the policies and recommendations of the 2007 Master Plan. The implementation of the Master Plan through amendments to the Unified Development Ordinance has been extensive, leading to the creation of new zoning districts and design standards such as the four age-restricted districts and new sign, streetscape and

landscaping standards. Furthermore, the Township Council has established six areas in need of redevelopment with two additional areas under consideration.

MAJOR PROBLEMS AND POLICIES IDENTIFIED IN THE 2002 MASTER PLAN REVISION

DEMOGRAPHIC CHANGES

The 2002 Master Plan made note of several demographic changes in Deptford. First, the Township experienced an increase in the school-aged population from 1990 to 2000 that was reflected in steadily increasing school enrollment. This is consistent with national trends categorized as the “baby boom echo” as the baby boom generation started families in the late 1980’s that carried into the 1990’s. Secondly, the racial and ethnic makeup of the Township was diversifying more rapidly than the rest of Gloucester County on average, though a large majority of its residents remained white. The document mentioned that housing tended to be more affordable in Deptford which was reflective of its residents having a lower median income than the County average. Lastly, its labor force participation rate was lower than other large suburban municipalities among its nearby neighbors but higher than the state as a whole.

LAND USE CHANGES

In land use, the 2002 Plan recommended a readjustment of the non-residential zoning districts to de-emphasize the office land use policies reflected in the 1989 Master Plan and instead create a more retail-focused land use scheme for the Township. This was accomplished by the adoption of four new Business Center zoning districts. Five other specific zoning recommendations in limited areas were also proposed and most were later enacted in the December 2002 zoning amendments (Ordinance O.20.02, December 20, 2002).

Even larger changes were recommended for residential land use. The first of these was the transitional commercial districts which allow a mixed residential and commercial uses. The Master Plan recommended removing residential uses, but this was not implemented. Next, the report recommended creating new zoning districts for the Locust Grove PUD as that development was built out. This was also a recommendation of the 2007 Master Plan and then implemented in 2009 by ordinance amendment (O.3.09, March 16, 2009).

For institutional land uses, the 2002 Plan recommended several extensions of the district to cover lands expected to be used that way, including the Gloucester Catholic (technically the Diocese of Camden) parcel on Blackwood-Barnsboro Road and several others. These were implemented with the adoption of a revised zoning map in 2002.

The 2002 Plan recommended the creation of an open space plan that incorporated conservation lands along stream corridors, as well as recreational uses. This was undertaken in the 2007 Master Plan.

Lastly, the report made a number of suggestions for small scale zoning changes to address locations where the zoning district and land use were mismatched. Most of these were enacted with the adoption of the new Zoning Map in 2002.

POLICY CHANGES

Relating traffic impacts to intensity of the new commercial/industrial districts was a new concern in the 2002 Master Plan update. The Plan described a new zoning concept that was subsequently enacted to limit the amount of traffic per acre in the new Business Center districts. Towards that end, the 2002 Plan also recommended that the Planning Board prepare a new Circulation Element. This element was adopted as part of the 2007 Master Plan.

A significant change to residential zoning was also proposed to balance the high level of small lot single family detached uses with larger lots in several undeveloped areas of the municipality. This was implemented by extending the R-40 zoning district to areas previously zoned R-20 and in creating a new R-10A district that applied R-40 area and yard requirements to tracts of 10 acres or larger.

MAJOR PROBLEMS AND POLICIES IDENTIFIED IN THE 2007 MASTER PLAN

The 2007 Master Plan was the first comprehensive plan since the 1989 Master Plan. Its contents include the following statements and elements:

- Introduction
- Goals and Objectives
- Conservation Element
- Open Space and Recreation Plan Element
- Community Facilities Plan Element
- Circulation Element
- Land Use Plan Element
- Community Design Sub-Element
- Statement of Planning Consistency
- Recycling Ordinance Adopted as Recycling Element

The Housing Element and Fair Share Plan that addresses affordable housing issues in Deptford, is operating on a different time line than the 2007 Master Plan. In addition to the March 2016 Housing Plan (submitted to court in draft form), prior plans include July 2005, November 2006 and November 2008. All of these address the various iterations of the “third round” rules adopted by the NJ Council on Affordable Housing and subsequent court decisions. The March 2016 Housing Plan was produced in response to the March 2015 NJ Supreme Court decision on affordable housing plans, more of which may be reviewed in the section on changes in policies, below.

The major problems and policies identified and established in the 2007 Master Plan are as follows:

GOALS AND OBJECTIVES

There are four main goals established in the 2007 Plan. The first is to protect Deptford's natural resources. Deptford, about 70% developed, has a well-crafted recreational program and facilities but less land devoted to conservation purposes. Since development of lands not previously developed is expected, some portion of the land should also be set aside for conservation purposes. The second main goal is to maintain services for residents, business owners and visitors at an acceptable level while also responding appropriately to new circumstances and mandates, such as affordable housing. In this goal, one objective continues the policy first established in the 2002 Plan to retain larger lots for executive housing to rebalance the housing stock in Deptford. The third goal supports the incremental addition to community assets such as open space, road segments, balanced land uses and recommends in its objectives targeting resources for neighborhood preservation, regional coordination with other municipalities, and examination of the potential for mixed use development. Lastly, the fourth goal is to improve the physical environment of Deptford through signage, landscaping, adding streetscape improvements in commercial areas and encourage better building design.

CONSERVATION ELEMENT

The major recommendations in the Conservation Element include protection of environmentally sensitive land by creating a more realistic and usable clustering ordinance, seek contributions towards open space preservation, and improve the quality of retained open space in development. Since Deptford was identified as having significant woodland assets, the Conservation Element promotes the concept of the urban forest which is represented by wooded areas left untouched as well as an investment in street trees by both the public and private sectors. For stream corridors, it recommends continued acquisition of land along the Big Timber Creek and the creation of setbacks from streams.

OPEN SPACE AND RECREATION PLAN ELEMENT

The Open Space and Recreation Plan Element proposes the acquisition of additional land for open space after a deficit in community-sized parks was discovered. Locations for acquisition that were suggested include the Friends of Israel, Whispering Lakes, Rizzuto, Lakes of Bankbridge and Kinsley. In addition, an expansion of Fasola Park to the south was envisioned. The Plan did not recommend that all of this land be acquired, but that one or two would meet the intent of fostering more community-wide use of parks. Furthermore, any larger parkland area would typically encompass areas for active and passive recreation, as well as conservation lands that preserve environmentally sensitive land. Even so, the acquisition of land is expensive and partnering with the County for state Green Acres money was identified as the

avored means of new acquisitions. The Master Plan includes recommendations to survey park users, create new trails and greenways, continue the Recreation Advisory Committee, create an improved cluster ordinance and discuss whether there were reasons to create joint recreation facilities with the Gloucester County Community College² or Gloucester County Institute of Technology.

COMMUNITY FACILITIES ELEMENT

The research conducted for the Community Facilities Element in 2007 revealed that the Township had a comprehensive set of social and governmental institutions of which the school district had perhaps the largest physical and taxation impact. The school district also has a large transportation effect and its recreation facilities also complement the extensive system operated by the Township. Not surprisingly, the first recommendation of the Community Facilities Element is to encourage close collaboration on land use, recreation and transportation issues. For example, a new east-west connector is proposed to allow for a cross-municipal road from Fox Run Road at the Deptford High School to Mail Avenue on Tanyard Road which would facilitate transportation access to Fasola Park and points farther west. In addition, the Master Plan recommended examining the need and if warranted construction of new fire facilities, seeking additional funding for the expansion of the police department, survey Township residents on recreational needs, promote the community college as a location for business development, including incubator space, and examine the need for an additional community center.

CIRCULATION ELEMENT

The Circulation Element in the 2007 Master Plan is a critical component of its overall policies, second in importance only to the Land Use Plan Element. The Element identified through an analysis of accident data that Deptford has on average 5 motor vehicle accidents per day. Additional study was recommended to see if geometric improvements to intersections, signal timing changes, signs and other changes would aid in reducing the accident rate. It was also noted that the established highway policies at the state and county levels would have a deleterious effect on the abutting land use if the road widening, intersection lane additions and signalization would occur as eventually planned. The Plan established a sidewalk policy for the Township to require them for residential streets and on higher order streets for commercial, civic and recreation uses to provide an alternative to motorized transportation. It also recommended creating a priority list or sidewalk plan to identify missing segments and allocate some resources in the capital budget for their installation. Improving pedestrian and recreation pathways in concert with the Open Space and Recreation Plan Element's proposal to expand greenways was also proposed.

² Now named Rowan College at Gloucester County.

At the time of the 2007 Master Plan, the Delaware River Port Authority through its subsidiary, PATCO, was studying the feasibility of restoring passenger rail service in Gloucester County. Of the three alternatives, two would have stops in Deptford. The Plan recommends the alternative that uses the Rt. 55 median. However, this alignment lost out to an alignment using the existing freight line from Camden to Glassboro that only traverses the Township in Oak Valley with no stops in Deptford. The Circulation Element also described several new road segments to improve travel in the Township. These include the extension of Caulfield Avenue to Cooper Street with a leg to Greenbriar Court and eventual access to Rt. 55 southbound from Deptford Center Road, an east-west connector from Mail Avenue to Fox Run Road, the connection of Bank Bridge Road to Mantua Avenue, and a bypass to the west of the Five Points intersection in the southeast part of the municipality.

The Circulation Element introduced the idea of traffic calming, or using physical means and roadway clues to slow motorists to appropriate speed limits. These include the use of speed tables, rumble strips, chokers and bump outs, chicanes, roundabouts and interrupted sight lines as potential techniques for use in Deptford. Several of these techniques were used in the retrofitting of Locust Grove Boulevard in 2009.

LAND USE PLAN ELEMENT

The Land Use Plan Element is the synthesis of the information and policies for development and redevelopment in Deptford and undergirds in a legal sense the Unified Development Ordinance (UDO) and the Zoning Map that regulate its land use. Consequently, it is the key part of the Master Plan and one of the few mandatory components required under the Municipal Land Use Law. The Land Use Plan Element recognized a number of problems and challenges in Deptford. The first of these was the aging of the housing stock. Many of Deptford's neighborhoods were first developed in the post-World War II construction boom and are now more than 50 years old. Much of this housing stock is functionally obsolete and devising a means to ensure continued private investment in homes coupled with public infrastructure reconstruction is important for the continued prosperity of Deptford.

Secondly, the zoning regulations pertaining to age-restricted housing were found to be lacking. The Township had a free-floating zone that would allow senior independent living without regard to its relationship to services available in the Township and the UDO did not address the common residential/medical uses, such as assisted living, that had come into being.

The 2007 Master Plan also concurred with the 2002 Master Plan in recommending that new zoning districts be created for Locust Grove. Locust Grove, as a form of planned unit development (PUD) was developed with regulations created through the site plan and subdivision process and as such was not reflected in the UDO. In the continuation of another policy from 2002, the 2007 Land Use Plan recommended that large lot (up to an R- 40

standard) zoning continue to aid not only in the creation of executive housing but as a means of preserving groves of trees and other environmentally sensitive lands within lots.

The diversification of non-residential land use was established as a policy in the Plan. Deptford has become the retail center of Gloucester County and depends for a significant portion of its tax base on retail sales and services in and around the Deptford Mall. The Land Use Plan identifies the need for other types of non-residential development as a hedge against changes in the economic climate for bricks and mortar stores.

The Land Use Plan Element speaks to the need to envision the next evolution in Deptford's pattern of development to allow for mixed use residential and non-residential uses in key area including Clements Bridge Road across from Caulfield Avenue and on Delsea Drive at Lexington Avenue. This new vision encompasses areas for redevelopment, most notably at the time, the Big Timber Creek Redevelopment Area in the extreme northeast corner of the Township proposed for either high rise residential living or large scale retail development.

In the establishment of land use categories, the Plan recommended the continuation of most land development policies that had been established in prior Master Plans. Substantive changes included mixed residential and commercial use, age-restricted residential, office by itself, research/office/manufacturing, resource recovery, and a separation of open space uses from institutional uses.

COMMUNITY DESIGN SUB-ELEMENT

The Land Use Plan Element includes the recommendation that design standards be established for commercial development to improve their appearance. The Community Design Sub-Element looks at this issue more closely by using photographs to illustrate design themes for the redevelopment of retail spaces, as well as better examples of apartment construction than has been the case in Deptford.

STATEMENT OF PLANNING CONSISTENCY

This part of the 2007 Master Plan examines the relationship between Deptford's Plan and the plans of surrounding municipalities, the County and the State. The Master Plan found no significant inconsistencies with any of these planning documents.

CHANGE IN THE STATUS OF THE MAJOR PROBLEMS AND POLICIES OF PREVIOUS PLANS

In the course of the past nine years since the 2007 Master Plan was adopted there have been changes in the status of various recommendations and polices which are discussed below:

GOALS AND OBJECTIVES

The goals and objectives for land development, conservation, community services and recreation have served Deptford well over the past nine – ten years by being flexible enough to address changes as they arise. Continued emphasis on neighborhood preservation and redevelopment as opposed to development on greenfield sites should be considered as part of any revision to the goals and objectives in the 2015 Master Plan.

CONSERVATION ELEMENT

The Township made progress towards its goal to preserve stream corridors with the Township Council's acquiescence of the acquisition of the former Maple Ridge Golf Course for open space purposes. Settlement of litigation with the landowner over a denial under the age-conversion act and eventual purchase of the land through the South Jersey Land Trust, Gloucester County and the NJ Department of Environmental Protection means the preservation of a portion of Mantua Creek. The former golf course has been renamed the Tall Pines State Preserve.

Effort was also made to convey Township owned land in Blackwood Terrace to the Old Pine Farm Land Trust in the Big Timber Creek corridor towards matching funds for additional land acquisition. During the subdivision review process, the Planning Board encouraged the conveyance of a part of former Block 349, Lot 9 to the Old Pine Farm Land Trust. This one-acre parcel was deeded over and made part of Block 350, Lot 1 on Bayer Avenue. The Township also prevailed in litigation over the remaining lands of the former Lakes of Bankbridge PUD which prevented the overdevelopment of the land around Monongahela Lake. Monongahela Branch, which the lake empties into, is a tributary of Mantua Creek.

OPEN SPACE AND RECREATION PLAN ELEMENT

The Tall Pines State Preserve adds about 62.7 acres to the Township's open space inventory and is intended for passive recreation and conservation. A portion of the former golf course is located in Mantua Township and was also part of the acquisition. The South Jersey Land Trust is anticipated to be the responsible party for maintenance.

The Township took a step towards acquiring land for the Whispering Lakes community park. In October 2014 the municipality purchased approximately 23.1 acres of land at the intersection of Delsea Drive and Deptford Avenue. This tract contains the three lakes (or large ponds) that gave the park its name. The remainder of the area identified as Whispering Lakes is about 117 acres. It is known that the site experienced some dumping and portions of it are wetlands towards the Turnpike (generally, the lands owned by the NJ Turnpike Authority). As opportunity arises, the Township will seek to determine the extent of the dumping and if it is feasible given what is found, acquire additional land towards the creation of a community park.

The Township commissioned a major design study for the renovation of Fasola Park in 2014. Fasola Park is the Township's main location for outdoor community activities and events. The master plan for the park organizes the park into three areas to support various activities. The lower park would receive the largest attention with the construction of an outdoor amphitheater using seating on the hillside, a central corridor that connects it to the pond on the property, dredging of the pond, the creation of a boardwalk along the edge and out over the pond, new trails and landscaping, as well as drainage improvements. The central area would become the main focus for park rentals for picnics and park administration. A new park lookout station is proposed that could also be used for event registration and operation, as well as security. This is the location of the Township's newest playground. The upper park would connect to the high school property and continue its use as sports fields. A trail system would be extended around the perimeter. The Township has completed the first order of business which was to move the main driveway away from the central parking lot and to add a roundabout and other traffic calming measures to slow down the cut-through traffic using the park drive.

COMMUNITY FACILITIES ELEMENT

In 2008 the New Sharon fire station was destroyed by fire. By early 2013 the fire company had rebuilt the station and is now serving the community as it was at the time of the adoption of the 2007 Master Plan.

The Deptford Township School District started a strategic planning initiative in 2014 that is expected to lead to a new set of education and facilities goals or a facilities master plan.

CIRCULATION

The Great Recession reduced economic activity significantly and that had the effect of easing traffic levels in Deptford to a small degree. As New Jersey joins the rest of the country in returning to pre-recession levels, it is anticipated that higher traffic levels and congestion will also return. Since the 2007 Master Plan, there have been land development road improvements at the Deptwood Center and Deptford Landing shopping centers to address site generated traffic. At the Deptwood Center, new signalization was installed on Cooper Street and a new signal installed where Lexington Avenue intersects Delsea Drive. These were installed in 2009. NJDOT, as part of the rerouting of ramps between Rt. 41 and Rt. 42 in 2005, did preliminary intersection work at the Deptford Landing shopping center which was then completed by the developer in 2008.

As mentioned in the previous section, the Township introduced traffic calming measures on Locust Grove Boulevard. Locust Grove had been constructed with a very wide cartway of between 42 and 50 feet. Though curvilinear, this width encouraged excessive speed through the development. In 2009 the Township put the street on a "road diet". At the key intersections with Village Boulevard and Rittenhouse Drive the cartway was physically

narrowed to create bump outs. Coupled with new streets trees, lighting and bollards, these designs incorporated pedestrian zebra crossings, new seating, and stop signs. Parking lanes and bicycle lanes were created with pavement markings that defined the travel lanes. These improvements greatly reduced the speed of traffic on the street and are an example of “complete streets”. Complete Streets is a design system that functions for all users, whether in cars, on foot or riding a bicycle.

Since the 2007 Plan, a route that uses the existing freight line (and previously had passenger traffic) from Camden to Glassboro was chosen as the preferred alternative for new rail service in Gloucester County ³. See further discussion in the Circulation Element.

But challenges remain. Older housing stock in less than prime locations is converting from owner-occupied housing to rental housing. Landlords, just as with homeowners, differ in their level of maintenance of the dwelling. At least in the short term, however, landlords’ financial interests align with undertaking less maintenance, particularly if it involves appearance and not the basic systems of the house. Appearance matters since it affects public judgment about a place. Since a number of objectives in the Master Plan center around improving the appearance of Deptford, enforcing property maintenance and landlord registration becomes more critical to meeting the goals of the Master Plan.

Following the 2007 Plan, four zoning districts were created, AR-1 through AR-4, to address age-restricted development. The AR-1 is designed for single family attached and detached dwellings at three units per acre. The AR-2 district is specific to Heritage Village in Locust Grove and is for single family detached uses. The AR-3 district is intended for combined residential and medical or social service care and permits nursing facilities, assisted living and rehabilitation centers. The AR-4 district is a planned unit development allowing similar uses and senior independent living along with medical offices in the Locust Grove area. These were implemented in October 2008 (Ord. O.17.08, October 6, 2008). Subsequently, the AR-4 was amended to allow medical centers (Ord. O.3.14, February 25, 2014). This was followed by an application and approval to construct a 45,000 sf. pediatric health center in this district to be operated by Nemours - Alfred duPont Hospital for Children in December 2014. Construction on this parcel will complete the Locust Grove PUD and also aid in the Master Plan objective of diversifying the non-residential tax base of the municipality.

As recommended in both the 2002 and 2007 Master Plans, new zoning districts were created to address the nearing completion of Locust.Grove. Most of the residential uses in Locust Grove were assigned new sub-districts under the R-10 zoning district umbrella (Ord. O.3.09, March 16, 2009). The non-residential parcels fronting on Clements Bridge Road were placed into the BC-2 district, which is the same designation as the Deptford Mall and its surrounding shopping centers (Ord. O.6.08, June 9, 2008). This ordinance generally amended the zoning

³ <http://www.glassborocamdenline.com/>, accessed January 28, 2015

map to implement zoning district boundary changes recommended by the Land Use Plan Element.

During the past eight years five land use related lawsuits with developers were either decided or settled that have had an effect on land use. The oldest of these occurred from the reduction in density that followed from the 2002 Master Plan. A land area which was formerly a sand pit in between Tanyard Road and Delsea Drive north of Cattell Road was settled. As part of the settlement a modified R-20 district, called the R-20A, was created that applies to the property. Three of the lawsuits stemmed from two ordinances adopted in 2004 that sought to limit big box stores over 100,000 sf. The Township was unsuccessful in two of these. The Deptwood Center retail redevelopment on Cooper Street is half finished and the other one is the completed Deptford Landing shopping center on Clements Bridge Road at Rt. 42. The third suit was settled for the Five Points area on both sides of Rt. 47 east of Rt. 55, just south of the Kinsley Landfill. Development here is allowed under a redevelopment plan that is pending consideration by the governing body. The final lawsuit was settled for the former Maple Ridge Golf Course when the owner agreed to sell the property for open space purposes, excepting a two acre parcel dedicated to the Township to address the site's affordable housing obligation.

CHANGES IN THE ASSUMPTIONS, POLICIES, AND OBJECTIVES UNDERLYING THE MASTER PLAN

The start of the Great Recession immediately after the adoption of the 2007 Master Plan had the effect of putting into stasis many development and redevelopment plans while consigning other plans to the dustbin of history. Highlights of the changes affecting the Master Plan are discussed below:

REDEVELOPMENT OF BLIGHTED AREAS

Since the redevelopment laws were reformed in 1991, municipalities gradually and then with more rapidity began using them to bring about desirable change more quickly in their communities. Use of redevelopment laws allows greater action to be taken on the part of a municipality instead of passively waiting for the private sector to apply for local approvals based on zoning. Deptford is no stranger to this effect and since the 2007 Master Plan has established redevelopment areas adjacent to Bellmawr, at the Five Points section of Deptford, and on Clements Bridge Road. Redevelopment Plans have been put into place with the South Five Points and Clements Bridge Road redevelopment areas. Redevelopment allows for a more managed process by municipalities' and allows for tax abatement and tax increment financing as a means to bring about positive change more quickly.

STATE POLICIES

A number of major initiatives on land use policy had been undertaken by the State over the past several decades. These include the State Planning Act, the Fair Housing Act, the

establishment of the Highlands area as a special planning region, the Highway Access Management Code and numerous environmental laws and regulations affecting land use such as wetlands, flood plain, storm water management, water quality (sanitary sewerage), coastal zone management, and air pollution control. With one exception since the last master plan review, there has been little change and no new initiatives. At about the same time as the last master plan, the NJ Department of Environmental Protection set deadlines for wastewater management planning that essentially required counties to submit plans by April 2009 (though extensions have been granted). Previously, wastewater management planning was the responsibility of the individual operator, such as the Deptford Township Municipal Utilities Authority. The state moved this responsibility to the county level and in Gloucester County; this was assigned to the Gloucester County Municipal Utilities Authority. With little notice and no dialogue, a new wastewater management plan was adopted through publication in the NJ Register in 2009. Portions of the Township were removed from the legal ability to obtain public sanitary sewer where before, the entire municipality was in the sewer service area. This has consequences for development and redevelopment within Deptford since many larger tracts have sections where the sewer service potential was withdrawn and that now complicates rational land development.

HOUSING

New Jersey recently moved to the top spot in the foreclosure crisis with the highest percentage of homes affected in 2015 and remains there ⁴, even as the number of foreclosures and troubled mortgages fell nationally. In Deptford, 318 houses are in foreclosure ⁵, or 5.3% of the estimated 6,054 homes with mortgages in the Township ⁶. Foreclosed homes are either unoccupied or rented, with most unoccupied. Lenders who own the property have a disincentive to maintain it since they seek to minimize their losses from the mortgage loan. This can create negative impacts on other property in the neighborhood that range from declining property values to blight to furtherance of crime. There is also a social cost that comes from persons who are evicted in the disruption of established relationships. In fact study has shown it can have a toll on the individual's health ⁷. This cost is also borne by the community who are left with vacant or abandoned houses and absentee landlords.

Affordable housing policy has had no clear consistent rules since 2004 when the "second round" administrative rules expired. While they were replaced with "third round" rules, three iterations of the rules have either been ruled unconstitutional by the NJ Supreme Court or have failed to muster the needed votes for adoption by the NJ Council on Affordable Housing

⁴ <http://www.nytimes.com/2015/01/04/realestate/a-decline-in-problem-mortgages.html?>, accessed January 29, 2015

⁵ <http://www.realtytrac.com/mapsearch/nj/deptford-foreclosures.html>, accessed January 29, 2015

⁶ American Community Survey, 2013 3-year Estimates.

⁷ The Impacts of Foreclosures on Families and Communities; Kingsley, Smith and Price; The Urban Institute, May 2009

Board. Consequently, Deptford still has an obligation under the state constitution to provide for affordable housing without knowing precisely how to go about it. Any reasonable analysis for Deptford suggests that several hundred housing units will be needed eventually. The Township has not been idle while waiting for the rules to be established. The Township approved two affordable housing developments that were constructed in 2008 for a total of 155 units. Secondly, the Township recently purchased the Donason tract on Almonesson Road on which it plans either affordable housing for veterans, senior citizens or perhaps both. It also continues to look for opportunities to purchase land or encourage other types of housing to meet its obligation.

RECOMMENDATIONS FOR GOALS, MASTER PLAN AND LAND DEVELOPMENT REGULATIONS

The analysis preceding this section focused on the major changes to conditions, laws and economics that affect Deptford's Master Plan and land development regulations and provides the basis for the recommendations that follow.

MASTER PLAN

The issues and problems identified in this report may be characterized as mainly minor amendments of the Master Plan but with renewed emphasis on Circulation and Land Use. Some specific areas to be addressed through revisions to the appropriate Master Plan element include:

Goals and Objectives

- The goals and objectives should be amended to support any revisions to the Master Plan and land development regulations recommended in this report.

Open Space and Recreation Plan Element

- Update the Element to include municipal facilities and any governmental or non-profit land acquisitions, and known easements since the last Master Plan. Revise any descriptions to reflect current conditions.
- Consider any potential new acquisitions and map their location.
- Create a combined Recreational and Community Facilities Map suitable for web based viewing.
- Adopt the Fasola Park Master Plan as a technical appendix.

Community Facilities

- Work more proactively with the Board of Education in determining the best outcome for improving school facilities.

- Address green building design for new and renovated governmental structures.

Circulation

- Continue the process of creating additional road segments to improve east-west travel through Deptford.
- Create a proposed trail and bicycle path plan for leisure and recreation purposes.
- Review means to improve on street bicycle and pedestrian safety throughout Deptford.
- Consider formally adopting “complete streets” as policy for the Township.
- Examine potential locations for traffic calming measures and engage higher levels of government as necessary in building support for their installation.
- Revise the Circulation Plan map as necessary to reflect updated information.

Land Use

- The rise in vacancies in shopping centers and tenants that supply mainly services instead of goods is a sign of lessened demand and stronger competition. The reuse of shopping centers for other uses should be examined and if warranted, redevelopment plans should be prepared for those becoming blighted.
- Entertainment uses are a natural complement to the existing shopping uses in the Township. The Township has approved a new 12 screen movie theater, though the project has not yet moved forward. Other areas of the Township should be reviewed for their potential for entertainment uses.
- The land use plan element should examine the viability of mixed residential and commercial development as was envisioned in the 2007 Master Plan.
- Examine land use policy for medical uses because it is an area of rapid regulatory and technological change, and propose specific areas where substance abuse treatment centers may be located to increase access and to control potential impacts.
- Because of its long stalled nature, the Big Timber Creek Redevelopment Area should be reviewed as to whether it should be continued or rescinded.

UNIFIED DEVELOPMENT ORDINANCE

- Automobile service uses are only permitted in a few districts and do not match up well with existing uses (which for the most part have been made non-conforming). A review of appropriate locations is recommended.

- Design standards to address pad sites in shopping and office centers should be proposed.
- The streets section of the UDO should be revised to address non-residential street design.
- The parking ratios section should be expanded to address new uses. Using research, review the ratios to determine if the number of parking spaces to building uses remain valid.
- Create standards for bicycle lanes and trail paths.
- Revise the site lighting standards to meet more modern requirements and new lighting technology.
- Create standards for solar and wind use from the residential to industrial scale.
- Revise the process sections to align with existing practice.

INCORPORATION OF REDEVELOPMENT PLANS INTO THE MASTER PLAN AND ORDINANCES

In the redevelopment plans adopted and drafted to date, the use and bulk standards are contained in the plans and supplant those in the UDO. It is anticipated that this practice will continue. Furthermore, the redevelopment plans contain building design standards that are beyond the scope of a traditional zoning ordinance.

The land use plan should be reviewed to determine if the underlying policy for the established redevelopments is still rational from a planning perspective. As noted above, specific review of the Big Timber Creek land use is recommended.

GOALS AND OBJECTIVES

INTRODUCTION

The Goals and Objectives Statement provides the framework for the analysis and conclusions of the various elements and statements that comprise this document. The goals and objectives are intended as a guide to enhance the quality of life in the Township for its residents, business owners and visitors. The Master Plan has four major strategies for land use: protecting natural resources, managing present conditions, envisioning Deptford's future, and improving Deptford's environs. These represent a continuity of policies from the 2007 Master Plan. Each goal is followed by a set of sub-goals, or objectives, by which progress in the implementation of this document may be measured and differ from the 2007 Master Plan due to significant changes in the economic landscape from the Great Recession and its attendant recovery. The objectives are not exclusive as each individual element of this Plan may also have recommendations pertaining solely to its subject. No ranking or ordering of the objectives should be inferred.

GOAL: PROTECT NATURAL RESOURCES

Preserve the natural heritage of Deptford

OBJECTIVES

- Utilize the Natural Resource Inventory in the land development process to identify and preserve environmentally sensitive land.
- Promote the preservation of land along stream corridors to improve water quality.
- Strive to preserve the natural, scenic, historic, and aesthetic aspects of the community and its environment as the municipality nears build-out.
- Match zoning densities to the environmental sensitivity of the land.
- Create measures to retain woodland in the municipality.
- Build a pedestrian and bicycle network for recreation and commuting purposes to lessen private automobile use and encourage more fitness in the population.
- Support land trust organizations and encourage their management of open space lands where appropriate.
- Encourage the planting of street trees in the municipality.

GOAL: MANAGE PRESENT CONDITIONS

Maintain the necessary services and capacities to satisfy the needs of present residents and to allow for their well-planned expansion to meet future needs.

OBJECTIVES

- Provide for the efficient movement of people and goods within and through Deptford to support the local and regional economy.
- Promote alternate means of transportation to improve people's access to jobs, services and government.
- Maintain streets, parks, police and fire protection, recreational programs and other services sufficient to meet the needs of Deptford residents and business owners.
- Ensure an adequate capital improvement program to maintain existing infrastructure and replace or modernize obsolete facilities. Work in concert with the Municipal Utilities Authority to ensure the timely replacement of their utilities.
- Promote the conservation of water.
- Provide for continuity of services under emergency conditions.
- Maintain a fair share housing plan and associated development regulations that meet the municipality's state mandate for affordable housing.
- Enter into a dialogue with the Deptford Board of Education about their needs and work to improve existing circulation problems with the Deptford High School.
- Establish a strong municipal economic development effort to retain existing business, aid those needing assistance to the degree feasible, and maintain a collaborative dialogue to address problems now and in the future.

GOAL: ENVISIONING DEPTFORD'S FUTURE

Build on Deptford's existing assets to create a community with a stronger connections and well balanced amenities.

OBJECTIVES

- Acquire sufficient open space based on the projected population for leisure and recreational purposes with a particular emphasis on community-wide facilities.

- Target resources towards neighborhood preservation as the housing stock ages.
- Reexamine large scale commercial zones and determine the feasibility of their evolution to mixed-use districts.
- Ensure that as the Township builds-out, that its balance of open space, residential, institutional, industrial and commercial uses will provide sufficient revenue for the provision of public services at a level that meets the needs of its people.
- Facilitate access to a variety of housing to meet the income, aesthetic and personal requirements of the Township's future population. Develop new standards for residential development intended for an aging population.
- Retain sufficient large lot residential zoning for executive and move-up housing.
- Improve travel within the municipality through the construction of new road segments.
- Utilize redevelopment statutes as needed but within the context of the overall goals and objectives of this document.
- Foster planning with adjoining municipalities to achieve common objectives where problems transcend municipal boundaries.

GOAL: IMPROVING DEPTFORD'S ENVIRONS

Improve the image of Deptford as an attractive, thriving and productive community.

OBJECTIVES

- Establish Rt. 55 as a scenic byway.
- Add wayfinding signage directing motorists to regional shopping, parking and community buildings.
- Look for opportunities to install traffic calming, pedestrian crossing location, and road diets in residential areas and in high accident locations.
- Balance the need for people and goods to travel through Deptford with the desire to preserve positive visual characteristics along roads and other transportation systems.
- Improve the quality of building design in commercial areas.

- Continue the installation of streetscape design improvements as required in the uniform development ordinance.
- Establish public architectural plans for neighborhoods targeted for revitalization efforts.

These Goals and Objectives pertain to the Master Plan as a whole. Within individual elements, additional recommendations for action and methods of implementation are made specific to their subject.

CONSERVATION ELEMENT

INTRODUCTION

The Conservation Element of the Master Plan addresses the issues of the preservation and management of environmentally sensitive lands. In this context, environmentally sensitive lands include stream corridors, open water, freshwater wetlands, floodplains, soils with high water tables, steep slopes, aquifer recharge lands, and areas with significant vegetative cover, including the urban forest resources of the Township. The preservation of these natural resources constitutes the main objective of the Township's conservation efforts. As the Township becomes built out and land use change occurs through redevelopment, keeping an appropriate balance between the natural environment and the built environment is critical to ensure that Deptford's quality of life is maintained for future generations.

The Conservation Element is supplemented by the Environmental Resource Inventory (ERI) which includes a wider range of topics than can be explored here. This document was produced by the Delaware Valley Regional Planning Commission (DVRPC) in 2011 and is incorporated into the Master Plan as a technical appendix. DVRPC, working closely with the Deptford Township Environmental Commission, investigated the natural resources of the Township, including its physiography, topography, soils, climate, air quality, surface water resources and ground water resources. The ERI also described the biological resources of Deptford from the perspective of flora and fauna indigenous to the municipality. In addition to a limited discussion on the built environment, the ERI identified potential threats to the environment from known contaminated sites which notwithstanding the landfills in Deptford, are relatively few in number and extent.

Groundwater use from private wells for drinking purposes and the disposal of effluent in septic systems (onsite disposal) is limited and declining in Deptford; however, the Township is reliant on seven wells drilled into the Potomac-Raritan-Magothy aquifer for most of its potable water. Supplemental water is supplied by the Tri-County system operated by New Jersey American Water Company from their water treatment plant on the Delaware River in Delanco. Two small areas of the Township are served by the water departments of Westville and Woodbury Heights. Deptford has had a consistent policy of extending public water and public sewer within its boundaries to accommodate growth and protect the public health. This policy continues today through the Deptford Township Municipal Utilities Authority (MUA).

Since the 2007 Master Plan however, there has been a significant change in sanitary sewer rules. Earlier last decade, the NJDEP adopted rules that shifted wastewater management planning to the county level. In 2009, with little to no communication with Deptford officials, the Gloucester County Municipal Utilities Authority determined new areas where sanitary sewer is permitted in the Township that cut back on the legal means of connecting to public sewer. The consequence of this change in policy is to raise the importance of siting on-site

disposal fields in appropriate soils and it also significantly lowers the density of development in those areas. On-site disposal is limited to 2,000 gallons per day (gpd). Single family detached uses are assumed by NJDEP to produce 300 gpd of effluent, so development is limited to six houses or less on a tract of land. Most of the land areas removed from the sewer service area are residentially zoned.

Following are topical summaries of major physical and natural characteristics in the municipality that bear upon its open space planning and the creation of the built environment through development and redevelopment processes (see specifically, Open Space and Recreation Element, and Land Use Plan Element).

GEOLOGY

Geologic formations – layers of rock or unconsolidated stones, gravels and sands – provide the parent material for the production of soils. Their characteristics help determine the suitability of land for development. The primary role of geology for land use policy relates to the supply of groundwater and the disposal of effluent, but it also affects the bearing capacities of soils for the support of buildings and other structures. Deptford Township is located within the Inner Coastal Plain, one of the five major geologic provinces of the State. Sediments in the Inner Coastal Plain thicken in a southeastward trend, from approximately 350 feet in Deptford to 500 feet near Atlantic City to more than 40,000 feet in the Baltimore Canyon Trough out in the Atlantic Ocean. Throughout the Coastal Plain, layers of sediment outcrop at the surface in irregular bands, which trend northeast to southwest⁸.

There are two basic types of geologic formations, surficial and bedrock. In Deptford Township, only surficial geology is of interest in land planning since bedrock is at a significant depth – too deep to play a part in human activities at the surface. Surficial formations – sedimentary strata – in Deptford consist of unconsolidated sands, silts and clays that formed as layers under the ocean. The rise and fall of the oceans, corresponding to glacial periods, successively inundated the land. Erosion from ancient streams that cut through these previously deposited materials established distinct geological layers. But this neat picture understates the admixture of layers of sand, gravel, silt and clay that make up the geology of the Township.

The surficial geology of the New Jersey Inner Coastal Plain is among the most complex in the world. For example, at least eight of the fifteen formations, laid down since the Cretaceous period, appear at the surface in the Big Timber Creek watershed. Each formation is itself made up of many layers, some the result of irregular interglacial stream deposition. The situation is further complicated by the appearance of fragments of older formations at a shallower level than more recent ones. The Bridgeton formation is the oldest but it forms the

⁸ New Jersey Geological Survey, www.state.nj.us/dep/nigs

summits of the few prominences on the landscape because of the erosive forces of the sea, changing sea levels and the picking up and depositing of material by rivers in the South Jersey area. Overall, the surficial geology can be characterized as being weathered Cretaceous (63 to 125 million years ago) coastal plain consisting of quartz sand, with lenses of gravel or clay. Glauconite, a type of mineral formed in marine deposits, occurs in varying concentrations in the younger formations, and some bog iron is seen ⁹.

DESCRIPTION OF FORMATIONS ¹⁰

In the Township, ten geologic formations have been identified. Following are descriptions of the formations that lie under the soils in Deptford and above bedrock.

ALLUVIUM – This layer consists of sand and silt with a minor amount of clay and is colored brown, yellowish-brown and gray. Alluvium also contains pebble gravel and variable amounts of organic matter. As its name suggests, alluvium was laid down by ancient rivers which deposited the sand, silt, clay and organic matter in varying degrees. This leads to great variation in its stratification where sand and silt lenses may be shallow or deep. The sand is chiefly quartz with some glauconite and ironstone. Gravel occurs in layers generally less than two feet thick. The gravel is chiefly white, gray, and yellow quartz and quartzite, with minor inclusions of reddish-brown ironstone and traces of gray chert. The sand and gravel beds may be locally cemented with iron.

BRIDGETON FORMATION – This formation is mainly medium to coarse sand. Minor inclusions are fine sand, clay, silt, pebble gravel, and minor cobble gravel. The sand is colored reddish-yellow, red, yellow, white, and very pale brown. Sand is chiefly quartz with some feldspar and rock fragments (chiefly chert and shale). The feldspar and chert are generally weathered to white clay, which has been translocated by ground water to form coatings on the quartz grains and to fill voids in the coarser sand beds. Glauconite is rare to absent because glauconitic Coastal Plain formations were not exposed during the deposition of the Bridgeton Formation. The gravel is chiefly yellow, reddish-yellow, and reddish-brown (from iron-staining) to white and gray quartz. Many of the chert pebbles are weathered to white and yellow clay. Pebble gravel occurs as thin layers (generally less than three inches thick) within the sand, and as thicker, massive beds (as much as two feet thick) in places at the base of the deposit, where it may include some cobble gravel. The gravel and coarse sand beds may be locally iron-cemented and may be up to 40 feet thick. The Bridgeton Formation is the oldest of the formations found in Deptford.

CAPE MAY FORMATION (UNITS 1 AND 2) – The Cape May Formation consists of fine-to-coarse sand, minor silt and clay that is yellow, brownish-yellow, reddish-yellow, very pale brown, or light-gray. Like most of the South Jersey formations, there is a minor amount of pebble gravel.

⁹ https://en.wikipedia.org/wiki/Big_Timber_Creek#Geology

¹⁰ U.S. Geological Survey, New York Region, 3dparks.wr.usgs.gov/nyc

Massive to well-stratified. The sand is quartz with a little glauconite and a trace of mica and feldspar. The formation is as much as 50 feet thick in the Paulsboro area but generally less than 20 feet thick elsewhere. Unit 1 is an older estuarine or fluvial-estuarine deposit of uncertain age that forms a terrace with a maximum elevation of about 50 feet. It was laid down during an interglacial sea-level rise and is of early or middle Pleistocene age (0.78 to 2.58 million years ago).

Unit 2 differs slightly from the first unit, lacking clay. The second unit is a little thicker, up to 40 feet in depth. This type of Cape May Formation forms a terrace with a surface elevation of about 30 feet. Fossils, pollen, and an analysis of shells from this unit in the Delaware estuary indicate that it is an estuarine or fluvial-estuarine deposit that is about 125,000 years old, when sea level was approximately 30 feet higher than at present in this region.

PENSAUKEN FORMATION – Spelled with one ‘n’ when describing geology, the Pensauken Formation has highly varied sand grains from fine to very coarse, along with minor amounts of silt. The color of the sand runs from reddish-yellow to yellow. The formation contains pebble gravel which occurs as thin layers (generally less than 3 inches thick) with the sand as a thicker, much more massive bed in places at the base of the formation, where it may include some cobble gravel. The sand is chiefly quartz with some feldspar, rock fragments (chert and shale), mica, and glauconite. The feldspar is generally weathered to white clay. The color of the gravel is yellow, reddish-yellow (from iron-staining), white, or gray quartz and quartzite; brown-to gray chert and reddish-brown ironstone; and a trace of brown, reddish-brown, and gray sandstone; shale; and white-to-gray gneiss. The chert, sandstone, shale, and gneiss are generally partially weathered or fully decomposed. This formation is up to 50 feet thick. The Pensauken Formation occurs as erosional remnants on the top of upland areas between Mickleton and North Woodbury and it likely continues into Deptford, though it has not been studied in the Township. The base of the deposit descends from an elevation of about 90 feet east of Mickleton to about 20 feet near Thorofare, reflecting a thinning of the deposit from east to west towards the main Delaware River Valley. This geometry, data on water flow, and the provenance of the sand and gravel in the formation, indicate that the Pensauken was deposited by a large river flowing southwesterly from the New York City area to the Delmarva Peninsula in ancient times.

The age of the Pensauken Formation has not been definitively established. The New Jersey Geological Survey believes it is from the Pliocene era (2.58 to 5.33 million years ago).

SALT-MARSH AND ESTUARINE DEPOSITS — Estuarine deposits consist of silt, sand, peat and clay in descending concentrations. The colors of these particles are brown, dark-brown, gray and black. The formation also includes minor pebble gravel and contains abundant organic matter. The deposition is as much as 90 feet thick beneath the Delaware River and 40 feet thick elsewhere. The layers were deposited in modern salt marshes, tidal flats, and tidal channels during the Holocene sea-level rise, chiefly within the past 10,000 years.

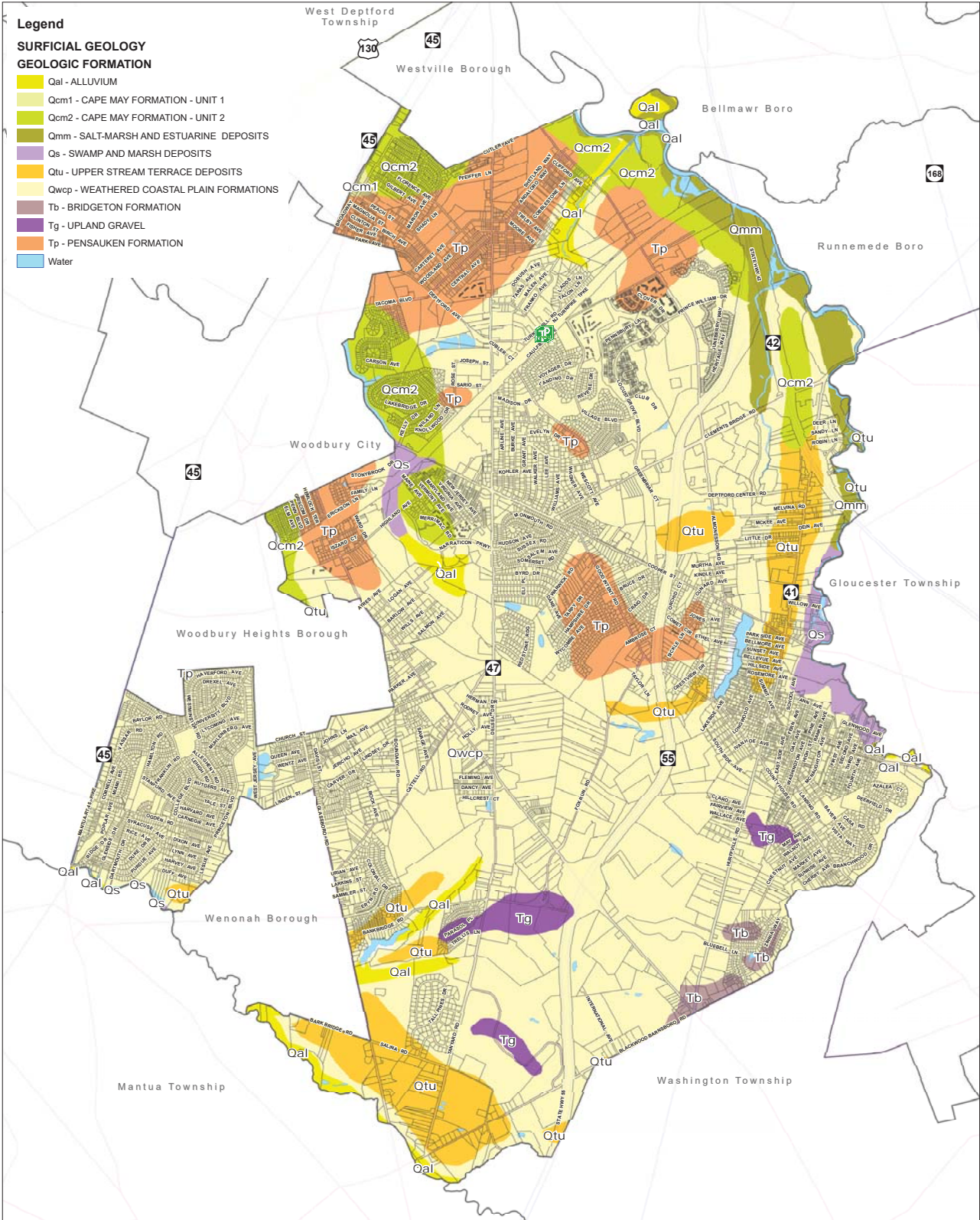
SWAMP AND MARSH (FRESHWATER) DEPOSITS – These are deposits laid down in modern freshwater wetlands and as such are primarily from the Holocene era (which is the present era). The deposits are peat, organic clay, silt and minor amounts of sand, and are colored gray to brown to black. These layers are as much as 40 feet thick.

UPLAND GRAVEL – Upland Gravel, notwithstanding its name, also contains fine-to-coarse sand and minor silt with a yellow, reddish-yellow, or very pale brown color. The sand is chiefly quartz, with some glauconite, and a trace of weathered feldspar and chert. It is as much as 15 feet thick. The gravel occurs as thin beds within the sand (generally less than 1 foot thick) and at the base of the deposit. The gravel is chiefly yellow, reddish-yellow (from iron-staining), white, and gray quartz and quartzite, with a little ironstone and a trace of weathered chert. The formation occurs as erosional remnants capping uplands or interfluves found just outside of Deptford in a similar fashion as the Pensauken Formation. The base of the deposits descends from an elevation of about 130 feet in the southeast to about 60 feet in the west and central parts of Gloucester County, where the deposits grade into the Pensauken Formation. This relationship and the northwest-southeast trend of many of the deposits suggests that the upland gravels were laid down by northwesterly flowing local streams that were tributaries to the ancient Pensauken river. Post-Pensauken stream erosion resulted in a topographic inversion, with the former valley-bottom deposits now forming interfluves (ridges between streams flowing in the same direction).

UPPER TERRACE DEPOSITS – Fine-to-coarse sand, minor silt; yellow, reddish-yellow, brownish-yellow, light-gray, locally olive-yellow; pebble gravel, minor fine cobble gravel. Sand is chiefly quartz with some glauconite and a trace of feldspar. Gravel is chiefly white, gray, and yellow quartz and quartzite, minor reddish-brown ironstone, and a trace of gray chert and occurs in sediments as much as 25 feet thick. Gravel occurs in thin beds (generally less than 6 inches thick) within and at the base of the deposit. The gravel forms terraces with surfaces that are 15 to 40 feet above modern flood plains. The deposits grade to, or are overlapped by, the Cape May Formation (unit 2). Sand in the upper terrace deposits contains significantly less feldspar and fewer rock fragments, and the gravel contains significantly less chert and sandstone, than in the Bridgeton, Pensauken and Upland Gravel Formations because these deeply weathered materials did not survive reworking from the older deposits.

WEATHERED COASTAL PLAIN FORMATIONS – These consist of exposed formations of Cretaceous through Miocene age. The soil zone generally includes some lag pebbles from eroded surficial deposits and may include thin, patchy colluvial or alluvial sediments less than 3 feet thick.

Earlier in the document it was noted that the Township's wells draw from the Potomac – Raritan – Magothy aquifer. This aquifer underlies the formations described here that outcrop in Deptford but does not lie at the surface anywhere in the Township. The Potomac – Raritan – Magothy aquifer is hydrologically separated from other aquifers by layers of clays and silts that prevent contaminants from the surface from seeping down through the layers and penetrating it, which is one major reason it has been used for potable water purposes.



- Legend**
- SURFICIAL GEOLOGY**
- GEOLOGIC FORMATION**
- Qal - ALLUVIUM
 - Qcm1 - CAPE MAY FORMATION - UNIT 1
 - Qcm2 - CAPE MAY FORMATION - UNIT 2
 - Qmm - SALT-MARSH AND ESTUARINE DEPOSITS
 - Qs - SWAMP AND MARSH DEPOSITS
 - Qtu - UPPER STREAM TERRACE DEPOSITS
 - Qwcp - WEATHERED COASTAL PLAIN FORMATIONS
 - Tb - BRIDGETON FORMATION
 - Tg - UPLAND GRAVEL
 - Tp - PENSAUKEN FORMATION
 - Water



Clarke Caton Hintz

- Architecture
- Planning
- Landscape Architecture

Surficial Geology

LOCATION: Deptford Township, Gloucester County, NJ DATE: January 11, 2017

Source: Gloucester County Parcels (2014)
 NJ Office of Information Technology (NJGIT)
 Office of Geographic Information Systems (OGIS)
 NJ Surficial Geology (2008)
 United States Geological Survey (USGS)
 National Geologic Mapping Program

Soils

The parent geologic formations in the previous section play a major role in the formation of different soil types. Soils are developed from mineral and organic matter and generally contain an active population of organisms. Soils reflect the parent material from which they developed and changes imposed by their surrounding environment. Each soil has specific characteristics that affect the type of landforms created, its slope, drainage and the plant materials that are supported. Soils serve as the basis for determining suitable land uses for a particular area.

Soils are made up of varying amounts of clay, silt, sand, and organic matter. The components of soil vary in size, with clay particles being the smallest in diameter and sand particles being the largest. A number of the soil classifications have similar characteristics and it is usually the lower horizon (the “B” Horizon) making up the subsoil that places the soil into one type or another. The general soil series are depicted on the Soils map found on the page III-14 and are described generally in this section. Due to space limitations, the Soils map legend indicates a U.S. Department of Agriculture symbol for the soil type which is either found in parentheses following the name or following the main description.

DESCRIPTION OF SOILS¹¹

BERRYLAND AND MULLICA MIXED (BEXAS) -Mostly in woodland. Some of the soil has been cleared for growing high-bush blueberries and cranberries. Drained areas have been used for growing vegetables, corn, soybeans and small grain. Native vegetation is pin oak, white oak, willow oak, red maple, bay magnolia, sweet gum, black gum, and black birch. The dense understory is commonly high-bush blueberry, sweet pepperbush, bay magnolia, leather leaf, gallberry, and greenbriar. This soil has a slope of 0 to 2 percent.

BUDDTOWN DEPTFORD COMPLEX (BumA) – This series consists of fine sandy loams and urban land complex¹². Mixed oaks - particularly white oak, yellow poplar, sweetgum, red maple, beech, and American holly are the typical trees found in this soil (all acid-loving plants). Understory species include high bush blueberry, spicebush, viburnum, and greenbriar. The slopes range from 0 to 2 percent.

COLEMANTOWN (CoeAs) – This series features loamy soils that are prone to flooding. The presence of these soils is an indicator of freshwater wetlands. Slopes for this soil family range from zero to 2 percent. Most such soils have been cleared and used for crop production. The most common agricultural products are hay, pasture, turf, corn, and soybeans. Wooded areas

¹¹ National Resources Conservation Services. “NRCS Soils Survey.” <http://soils.usda.gov>

¹² Meaning, land developed before the original soil characteristics could be determined and that has been disturbed by construction.

are dominated by sweetgum, red maple, white oak, American holly, and yellow poplar, in descending order.

COLLINGTON – This family of soils includes well-drained loamy soils that contain moderate amounts of glauconite (a type of iron rich mica used as an early agricultural fertilizer). They have higher glauconite content than Freehold soils, but a lower level than Marlton soils. Typical native vegetation is a hardwood forest that consists primarily of red oak, yellow poplar, hickory, ash and beech and an understory of viburnum. Collington soils are classified as either prime agricultural or soils of statewide importance in Deptford. The different soil symbols are described as follows:

- CogB Collington loamy sand, 0 to 5 percent slopes
- CogC Collington loamy sand, 5 to 10 percent slopes
- CokA Collington sandy loam, 0 to 2 percent slopes
- CokB Collington sandy loam, 2 to 5 percent slopes
- CokC Collington sandy loam, 5 to 10 percent slopes
- CopB Collington-Urban Land Complex, 0 to 5 percent slopes

FALLSINGTON – This series consists of nearly level, fine, sandy loams that are grayish-colored and distinctly mottled that were formed from loamy marine and ancient alluvial sediments. Fallsington soils form in water deposited sediments in low positions, where they receive considerable runoff from higher slopes. Generally, these soils are saturated six to eight months of the year even though the water table drops below three feet in the summer; it may be higher when rains are heavy. Because of the high water table, constraints on development are severe. The presence of Fallsington soils typically serves as an indicator of freshwater wetlands. The different soil symbols are described as follows:

- FamA Fallsington sandy loam, 0 to 2 percent slopes
- FapA Fallsington loam, 0 to 2 percent slopes
- FauB Fallsington-Urban land complex, 0 to 5 percent slopes

FLUVAQUENTS (FmhAt) – These soils are in the flood plains and are under repeated deposition of materials. These are always hydric soils and are indicators of either tidal or freshwater wetlands with attendance wetlands vegetation. Slopes of 0-3 percent

FREEHOLD – Freehold soils are typically dark grayish-brown, well-drained and sandy. In contrast to other soil types in Deptford, the soil is low in glauconite. Additionally, Freehold is distinguished by the inclusion of iron among its finer particles, which gives it a reddish cast

in the lower horizons. Freehold soils occupy higher elevations and are extremely acidic. The natural vegetation, typically on slopes, consists of red oak, beech, and yellow poplar. Freehold soils generally present few constraints for development except that establishing lawns may be difficult on the steeper slopes.

- FrfB Freehold loamy sand, 0 to 5 percent slopes
- FrfC Freehold loamy sand, 5 to 10 percent slopes
- FrkA Freehold sandy loam, 0 to 2 percent slopes
- FrkB Freehold sandy loam, 2 to 5 percent slopes
- FrkC Freehold sandy loam, 5 to 10 percent slopes
- FrkD Freehold sandy loam, 10 to 15 percent slopes
- FrkD2 Freehold sandy loam, 10 to 15 percent slopes, eroded
- FrkE Freehold sandy loam, 15 to 25 percent slopes
- FrkF Freehold sandy loam, 25 to 40 percent slopes
- FrrB Freehold-Urban land complex, 0 to 5 percent slopes
- FrrC Freehold-Urban land complex, 5 to 10 percent slopes

All Freehold soils with a slope of 5 percent or less are considered prime agricultural lands and those of 5 to 10 percent slopes, soils of statewide importance.

HAMMONTON (HbmB) – The Hammonton soil is a loamy sediment created by large scale water that is fairly well drained. The soil has a moderately high degree of permeability and is capable of producing fruit, vegetables, row crops, and nursery stock. The native vegetation is mixed hardwood forest, including scattered pitch pine, shortleaf pine, loblolly pine and Virginia pine. The soils are found down slope from Sassafras, Downer and Evesboro soils.

JADE RUN (JdrA) – A series of poorly draining soil due to the flatness of its 0 to 2 percent slope, it nonetheless has moderately rapid to rapid permeability. The soil formed from loamy fluviomarine deposits and is friable with very fine sandy loam through the B horizon. Seasonal high water is within 12 inches of the surface. The soil is highly acidic with little glauconite and minor amounts of mica. Common native vegetation is white and water oak, sweetgum, red maple, green ash and American holly. The Jade Run series in Deptford is considered a soil of statewide importance for agriculture.

KEYPORT (KeoA) – Keyport soils have a more varied slope of 0 to 10 percent, which makes up small knolls and depressions in the landscape. The soil is moderately well drained in its steeper regions with a slow to moderately rapid permeability. Seasonal high water is from 18 to 42 inches from the surface. The soil is highly acidic and may include masses of accumulated iron and manganese oxides. Yellow poplar, American beech, red maple and white oak are common species of trees. The Keyport series found in Deptford is considered a prime agriculture soil.

KRESSON (KreA) – Kresson soils are poorly draining with a slope of 0 to 2 percent though their permeability ranges from slow to moderately rapid. These soils were formed from glauconitic clayey marine deposits. The glauconite content ranges from 3 to 10 percent of the series in the upper soil horizons and up to 60 percent in lower soil horizons. The top organic layer is mucky peat or muck. Native trees include sweetgum, yellow poplar, white and willow oak, red maple and American beech. The Kresson series in Deptford is considered a soil of statewide importance for agriculture.

LENNI (LenA) – Similar to Jade Run soils but without the glauconite or mica, the Lenni was also formed from clayey fluviomarine deposits. Slope of 0 to 2 percent is typical and consequently poorly draining. Typical trees are sweet- and black gum, white and willow oak, red maple and American holly. The Lenni series in Deptford is considered a soil of statewide importance for agriculture.

MANAHAWKIN MUCK (MakAt) – This soil generally has an organic content of less than 18% by volume, but may also include individual layers of mucky peat with much higher organic levels, especially at the soil surface. These characteristics give the soil a high water bearing capacity. The presence of this soil is also a strong indicator of wetlands. The Manahawkin Muck is prone to flooding and has low to moderate levels of runoff. The slopes range from 0 to 2 percent. Natural vegetation includes Atlantic white cedar and in drier areas, red maple. At the edges of water, forbs and sedges are found.

MANNINGTON NANTICOKE COMPLEX (MamnAv and MamuAv) – In Deptford the soils are very frequently flooded. The difference between the MamnAv and the MamuAv is that the latter has an admixture of udorthents (see description below). Slope is very slight, with a slope of 0 to 1 percent.

MARLTON – This soil family is a very deep sandy loam with slopes that range from two to fifteen percent, though more commonly found with five percent or less slope. It is moderately well drained with slow permeability that results in medium to high runoff. Marlton soils have high levels of glauconite. Soils with high levels of glauconite were called ‘marl’ and were identified by its distinctive green color. The common name gave the village of Marlton its name (located in Evesham Township). The native vegetation includes mixed oaks, hickory, sweetgum, yellow poplar, American beech, and red maple. Some southern areas in former

agricultural uses have growths of Virginia pine and red cedar. The different soil symbols are described as follows:

MaoB	Marlton sandy loam, 2 to 5 percent slopes
MaoC	Marlton sandy loam, 5 to 10 percent slopes
MaoC2	Marlton sandy loam, 5 to 10 percent slopes, eroded
MaoD	Marlton sandy loam, 10 to 15 percent slopes
MaoD2	Marlton sandy loam, 10 to 15 percent slopes, eroded
MauB	Marlton-Urban land complex, 0 to 5 percent slopes

Marlton sandy loam, 2 to 5 percent slopes, is a prime agricultural soil and Marlton sandy loam, 5 to 10 percent slopes whether eroded or not are considered soils of statewide importance.

PITS, SAND AND GRAVEL (PHG) – These are non-soils and represent the underlying surficial geology where the soil horizons have been removed to expose the sands and gravel for excavation and use in construction materials.

SASSAFRAS (SabC) – This soil type is a very deep, fine sandy loam with slopes that range from five to forty percent. It is moderately well drained. While the soil has slow permeability, the runoff value is low to moderate. The native vegetation includes mixed oaks, with some shortleaf and Virginia pine. Sassafras sandy loam, 2 to 5 percent slope, is the soil type found in Deptford which is also classified as a prime agricultural soil.

TINTON (ThfB) – This family of soils consists of a loamy mix of sand, fine sand and loam sand. The slopes range between zero and twenty-five percent. The soil is well drained and not prone to flooding. It is classified as having moderate to moderately rapid permeability. Agricultural uses consist mostly of fruit and vegetable production, generally irrigated. The dominant vegetation is white oak, black oak, red oak, and chestnut oak, with scattered Virginia pine. Abandoned fields support Virginia pines in the early stages of successional vegetation. The soil type in Deptford is Tinton sand with a slope of 0 to 5 percent. This soil type is a soil of statewide importance.

UDORTHENTS – This is a general term for soils that have been placed as dredge spoil material, with varying degrees of coarseness found in the soil. The soil, being a man-made material, has no characteristics that can be used to fully describe it. The soil has more variable characteristics because it usually consists of varying amounts of material from the subsoil, substratum of nearby soils and alluvial deposits from the bed of streams. Slopes range from zero to ten percent. The following types are found in Deptford:

UdauBUdorthents-Urban land complex, 0 to 8 percent slopes

UddB Udorthents, dredged materials, 0 to 8 percent slopes

UddcBUdorthents, dredged coarse materials, 0 to 8 percent slopes

UdrB Udorthents, refuse substratum, 0 to 8 percent slopes

URBAN LAND (UR and USFREB) – Urban Land and Urban Land-Freehold complex, 0 to 5 percent slopes, are soils that have been disturbed by construction activities and thus are admixtures of soils, fills and confused strata that is not possible to sort into distinct soil series and horizons.

WESTPHALIA – The series is comprised of very deep, fine, sandy loam. The soils are well drained and feature slopes ranging from zero to fifty percent. The soil was formed in unconsolidated coastal plain sediments that contained fine and very fine sands. While the soil is capable of sustaining field crops, truck crops and tobacco, its native vegetation is red, white, and black oaks, hickory, ash, locust, yellow poplar, holly and dogwood. The following soil types are found in Deptford:

WeeB Westphalia fine sandy loam, 2 to 5 percent slopes

WeeD Westphalia fine sandy loam, 10 to 15 percent slopes

WeeD2 Westphalia fine sandy loam, 10 to 15 percent slopes, eroded

WehB Westphalia-Urban land complex, 0 to 5 percent slopes

Westphalia fine sandy loam, 2 to 5 percent slopes is a prime agricultural soil.

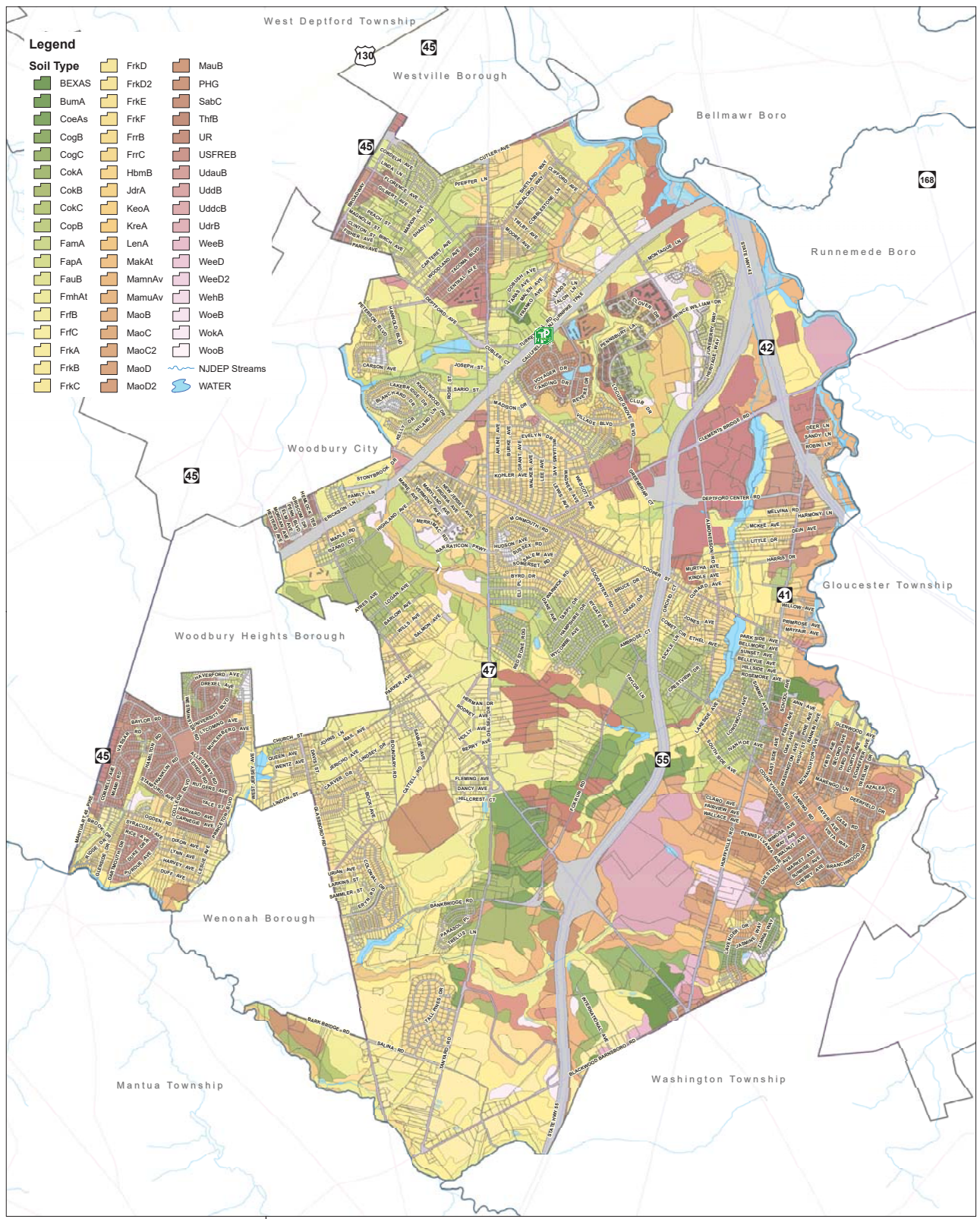
WOODSTOWN – This soil series is comprised of fine loamy mix with slopes fluctuating between zero and thirty percent. The soil is moderately well drained with moderate permeability. The native vegetation is oak and hardwoods with occasional Virginia pines. The following soil types are found in Deptford:

WoeB Woodstown sandy loam, 2 to 5 percent slopes

WokA Woodstown-Glassboro complex, 0 to 2 percent slopes

WooB Woodstown-Urban land complex, 0 to 5 percent slopes

The Woodstown sandy loam and Woodstown-Glassboro complex are prime agricultural soils.



Clarke Caton Hintz ● ● ●
 Architecture
 Planning
 Landscape Architecture

Soils

LOCATION:
 Deptford Township, Gloucester County, NJ

DATE:
 January 11, 2017

Source: Gloucester County Permits (2014)
 NJ Office of Information Technology (NJGIT)
 Office of Geographic Information Systems (OGIS)
 Soil Survey Geographic (SSURGO) Database for Gloucester
 County, New Jersey 1/11/2017
 U.S. Department of Agriculture, Natural Resources Conservation Service

WATER SUPPLY

As noted above, the Deptford Township Municipal Utilities Authority operates seven wells that penetrate into the Potomac-Raritan-Magothy aquifer at a depth from 261 to 355 feet. Pumping from this aquifer is limited by the state in order to avoid excessive depletion of groundwater. In 2006, about 55% of total water consumption in Deptford came from groundwater but by 2014, this had fallen to 35%. The remaining water (aside from the small parts of the Township operated by Woodbury Heights and Westville) comes from the Delaware River through the New Jersey American Water Company's Tri-County system.

Water consumption in Deptford Township increases by about 23% in the summer compared to the winter, but this difference has lessened in comparison to prior years. The difference between summer and winter usage can largely be attributed to the irrigation of landscaping, the filling of swimming pools, and agricultural uses. The Township's water quality meets the standards set by the NJ Department of Environmental Protection. Also, all wells and the water obtained from the Delaware River tested low in susceptibility for pathogens, nutrients, pesticides, volatile organic compounds and radium. The only item noteworthy was a slightly higher sodium level than desirable found in some tests, but this effect would be negligible compared to the sodium intake in a normal diet.

Protection of water supplies is a very important part of governmental regulation. Maintaining and improving the quality of water that percolates into aquifers and enters streams is a critical part of this protection system. Water gets into aquifers through a slow migration process that penetrates down through geological layers. Since some strata have high clay content, water can take a very long time to migrate through the layer. The water in the PRM aquifer may have fallen as rain 10,000 years ago.

When withdrawal from a well exceeds its replenishment, it is essentially mining a natural resource that was created before civilization reached this area. When aquifers are over pumped, water quality can be diminished. Shallow homeowner wells may be adversely affected by agricultural chemicals and industrial wastes that were applied or dumped on the surface as rain carries the pollution into the aquifer (the deeper municipal wells would not be affected). Preventing these effects have resulted in new regulations that seek to ensure that stormwater is properly filtered and given time to seep into the ground to ensure future supplies of water.

Efforts towards conservation of water should continue to be encouraged and is official state policy. The advent of reduced water usage plumbing fixtures and appliances has aided in a reduction in household use of water, which now is about 80 gallons per person per day, a common measure (which also takes into account the water used by businesses and their employees). Using Deptford's average household size of 2.58 persons per household, water usage averages 206.4 gallons per person per day.

FRESHWATER WETLANDS

Jurisdiction for the regulation of freshwater wetlands was transferred from the U.S. Army Corps of Engineers to the New Jersey Department of Environmental Protection on July 1, 1987. Transitional buffer standards were instituted on July 1, 1989. The final transfer from federal to state control of Section 404 permits, pertaining to the federal Clean Water Act, occurred in 1994, thereby completing New Jersey's assumption of wetlands protection.

Freshwater wetlands are determined by three main factors: 1) the land at least periodically and predominantly supports hydrophytes (a type of vegetation adapted to water saturated soils); 2) the soil substrate is primarily an undrained hydric soil typically characterized by long periods of oxygen starvation; and 3) the substrate is a non-soil and is saturated or covered by shallow water at some time during the growing season. ¹³

The NJDEP uses the U.S. Fish and Wildlife's classification system, which is based on a definitive study and nomenclature by Cowardin, et al. ¹⁴ The classification tool consists of five systems that encompass a wide variety of wetlands ecologies: Marine, Estuarine, Riverine, Lacustrine, and Palustrine. The Marine system consists of the open ocean and its associated coastline. The Estuarine system includes salt and brackish marshes and the brackish waters of coastal rivers and bays. These two classifications are salt water wetlands. There are three classifications for freshwater wetlands and deep water habitats (water over two meters in depth). Riverine wetlands, as its name suggests, are characterized as those that are river or stream based. Lacustrine wetlands are based in lakes, reservoirs or large ponds. Palustrine encompasses forested wetlands, marshes, swamps, bogs, and small ponds. ¹⁵ Deptford's wetlands are considered within the broad freshwater wetlands category since it is inland and upstream from brackish waters where the Delaware River meets the Atlantic Ocean. Most of the Township's wetlands are Palustrine forested wetlands, with Riverine tidally-influenced wetlands the second largest category. A minor amount of wetlands could be considered Lacustrine since the Township does not have large bodies of water. Deptford's largest lake, Almonesson Lake, for example, does not have a wetlands fringe.

A description of the freshwater wetlands in the Township begins on the next page.

The Wetlands Map on page iv-17 has been generalized from NJDEP's numerous sub-categories into four classifications. These include Deciduous Wooded Wetlands, Freshwater

¹³ The three parameter approach to classifying wetlands is from the definition of a wetland by the U.S. Fish and Wildlife Service.

¹⁴ L. M. Cowardin, V. Carter, F.C. Golet and E.T. La Roe, *Classification of Wetlands and Deep-water Habitats of the United States*, 1979, U. S. Fish and Wildlife Service.

¹⁵ This description is based on *Wetlands of New Jersey*, by Ralph W. Tiner, Jr., U.S. Fish and Wildlife Service, U.S. Department of the Interior, July 1985.

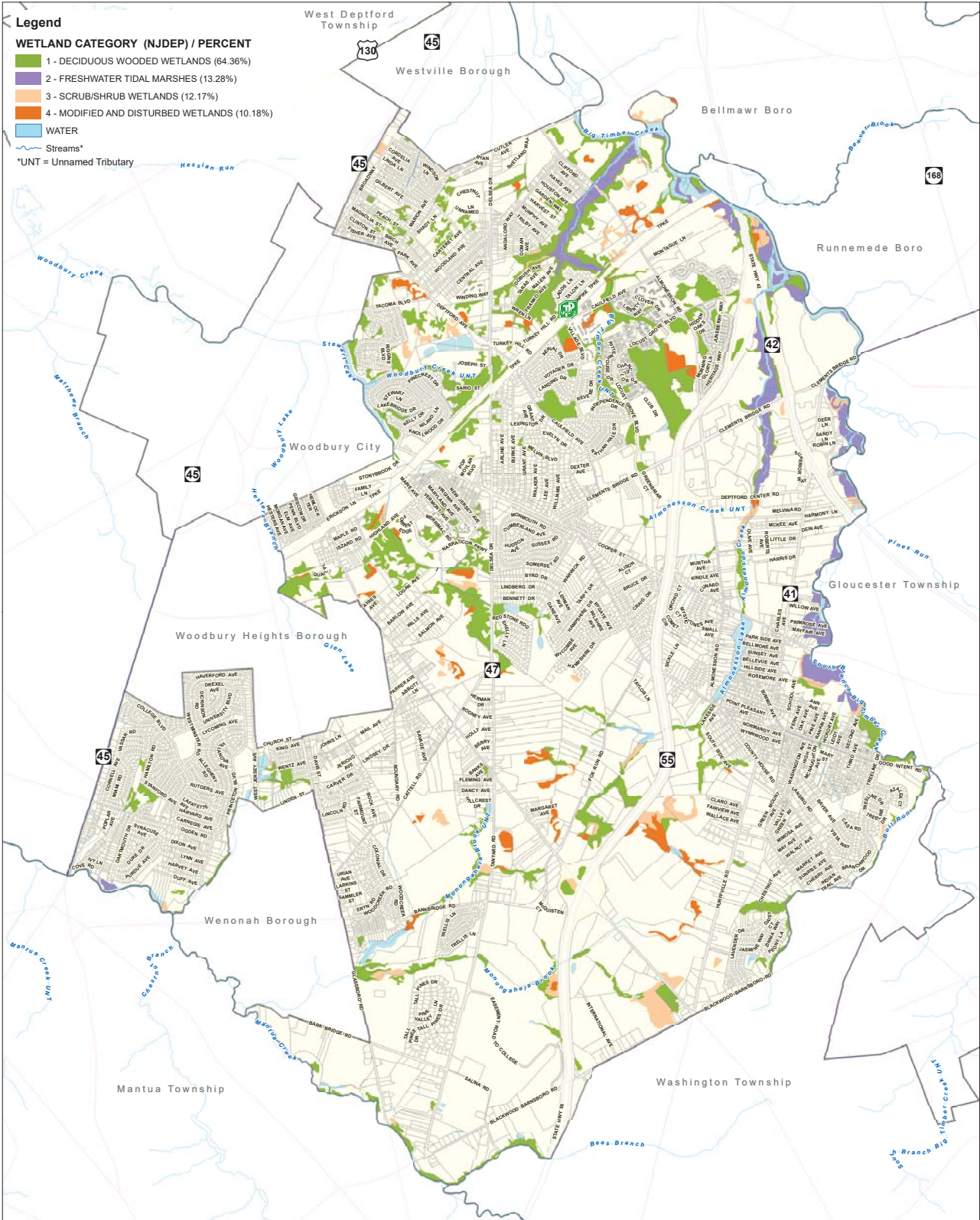
Tidal Marshes, Scrub/Shrub Wetlands and Modified and Disturbed Wetlands. Descriptions of these classifications are as follows:

DECIDUOUS WOODED WETLANDS - This is the most common type of wetland in Deptford Township with 64.36% of the total. These wetlands areas have mostly formed from topographic depressions in the landforms, slow percolation rates in the soils, or by construction activities that have interrupted water flow and prevented the soil from draining, creating a saturated condition. Secondly, this category forms the head of streams in Deptford where the water flow has not yet been concentrated enough to form a water course, but is enough to create periodic saturated conditions to meet the definition of a wetland. The deciduous trees commonly found are red maple, sweetgum, black gum (tupelo), and holly. Coniferous trees only include pitch pine; as other evergreens require drier soil. The understory vegetation in forested wetlands typically includes peppercorn, high bush blueberry, swamp azalea, and arrowwood.

FRESHWATER TIDAL MARSHES – Tidal marsh consists of successively inundated land and is dominated by grasses, sedges, forbs and rushes. The tidal marsh can be exposed as mud flats at low tide. Dynamically, as mud is trapped by vegetation or tidal forces and built up, it will support additional vegetation. This type of wetland is 13.28% of total wetlands in the Township and is found only along Big Timber Creek and its tributaries, including Almonesson Creek upstream to Deptford Center Road.

SCRUB/SHRUB WETLANDS – This category includes the sub-categories of coniferous, deciduous, herbaceous wetlands, and phragmites (Common Reed) dominated coastal wetlands. Constituting 12.17% of the Township's wetlands, these are often found in an upslope association with tidal wetlands. These drier areas support various types of successional wetlands plants and have generally been established after the original tree cover has been removed, though in some instances the scrub/shrub vegetation is better adapted to the level of soil saturation than trees.

MODIFIED AND DISTURBED WETLANDS – The remaining 10.18% of wetlands in Deptford consists of land where the wetlands have been altered by humankind. Mostly wetlands of this type occurred in an agricultural setting in Deptford. Tile drains may have been laid to lower the water table to make arable soil for this purpose. As agriculture was abandoned and the drains not maintained, wetlands reasserted themselves. This category also includes established lawn area being maintained and drainage swales adjacent to roadways and railroads.



- Legend**
- WETLAND CATEGORY (NJDEP) / PERCENT**
- 1 - DECIDUOUS WOODED WETLANDS (64.36%)
 - 2 - FRESHWATER TIDAL MARSHES (13.28%)
 - 3 - SCRUB/SHRUB WETLANDS (12.17%)
 - 4 - MODIFIED AND DISTURBED WETLANDS (10.18%)
- WATER
- Streams*
- *UNT = Unnamed Tributary



Wetlands Source: 2007 Land Use / Land Cover for the Lower Delaware Watershed Management Area by the NJ Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information System (BGIS)

Source: Gloucester County Parcels (2014), NJ Office of Information Technology (NJ OIT), Office of Geographic Information Systems (OGIS), Wetlands Source: NJDEP Land Use Land Cover (2007), NJ Department of Environmental Protection (NJDEP), Office of Information Resources Management (OIRM), Bureau of Geographic Information System (BGIS)

Wetlands

LOCATION:
Deptford Township, Gloucester County, NJ

DATE:
January 11, 2017

Clarke Caton Hintz ● ● ●

Architecture
Planning
Landscape Architecture

WETLANDS REGULATIONS THAT AFFECT DEVELOPMENT

The delineation of wetlands noted on the Freshwater Map are not “regulatory” in the sense of being accepted as definitive for the placement of buildings or establishing wetlands transition areas. Each individual site must be surveyed and the results submitted for a “Letter of Interpretation” (LOI) which is a formal acceptance of the mapping by NJDEP. This is a common practice in the site design and approval process.

State law preempts any local freshwater wetlands regulation, including determining or regulating transition areas or buffers. State law sets up three categories of wetlands, "exceptional resource value", "intermediate resource value", and "ordinary resource value". Exceptional resource value wetlands typically harbor endangered species or are related to trout production (not a factor in Deptford) and require a 150 foot buffer. Intermediate resource value wetlands are all wetlands which are neither exceptional nor ordinary. Intermediate wetlands require a 50 foot buffer. Ordinary wetlands are generally man-made and have no transition area. Bodies of water and water courses with no fringe of associated wetlands are called "state open waters" and also require no transition area (however, a different kind of buffer – a riparian buffer – may be required). State regulations allow certain limited types of fill in wetlands and averaging of transition areas.

While municipalities have been pre-empted by the state from regulating freshwater wetlands, setback requirements from a stream or pond for aesthetic purposes may be implemented locally to provide greater protection for natural resources as well as to promote a better visual environment.

FLOOD ZONES

Flooding results from the overflowing of a body of water onto adjacent land ¹⁶. The level or nearly level areas on either side of a water course or body created by successive and cyclical inundation and erosion is typically classified as a flood prone area. The DEP uses the word “flood prone” to include the flood plains that have been the subject of detailed engineering studies ¹⁷ - plus those areas outside of the study region that would likely flood - based on aerial photography and topography. Flood prone areas in Deptford are depicted on the FEMA Flood Zones map on the following page.

¹⁶ Flooding can also occur as the result of a rise in the water table, so that land becomes inundated at the surface; however, in this section only flooding from a water body overflow is discussed.

¹⁷ For Deptford, this information is found in Flood Insurance Study, Gloucester County, New Jersey (All Jurisdictions), Federal Emergency Management Agency, FIS No. 34015CV001A, January 20, 2010



Legend

FEMA Flood Zones

- Zone A - 100 year flood no Base Flood Elevations
- Zone AE - 100 year flood with Base Flood Elevations
- Zone B - 500 year flood area
- Water
- Streams*
- *UNT = Unnamed Tributary



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FEMA Flood Zones

LOCATION:
Deptford Township, Gloucester County, NJ

DATE:
January 11, 2017

Source: Gloucester County Panels (2014)
NJ Office of Information Technology (NJGIT)
Office of Geographic Information Systems (OGIS)
National Flood Hazard Layer (NFHL) (FEMA-FIRM-FIRM-FIRM)
Emergency Management Agency (FEMA)

For purposes of measuring hazards in flood prone areas, 100-year and 500-year flood plains are calculated, called “Zone A” and “Zone B”, respectively. Zone A includes a subset zone named “Zone AE” where the actual base flood elevations have been determined by engineering study. Other areas marked Zone A have been determined by known topography and extrapolation from the elevations in the Zone AE areas.

The flood plains are based on a statistical probability that there will be a storm or snow melt of such volume that it will cover the land to the extent shown on the Flood Zones Map. For Zone A that probability is one percent in any single year (sometimes called the 100-year flood plain) and for Zone B, two tenths of a percent in any one year (the 500-year flood plain). The delineation of these regulatory boundaries is based on the engineering studies noted above that examine the specific watershed. The study analyzes the land area of the drainage basin, the amount of impervious cover, slope, and the capacity of the stream channel.

The flood hazard area is composed of three parts: 1) the stream channel, which is the normal stream bed of the stream and contains normal flows; 2) the floodway, which is the area on either side of the stream which must be kept free of obstruction in order to contain 100-year flood flows; and 3) the flood fringe or 500-year level.

The State allows a certain amount of fill or construction in flood fringe areas – flood prone areas outside of the flood hazard corridor – but otherwise has established a policy of no construction in flood prone areas (*see* N.J.A.C. 7:13, the New Jersey Flood Hazard Area Control Act).

Municipalities are required to adopt ordinances that enforce the state statutes, including engineering details to minimize flood damage and adhere to net fill requirements. Deptford has adopted an ordinance, codified as Chapter XV, Flood Damage Prevention, that sets standards sufficient to allow residents to participate in the federal flood insurance program. In areas outside of flood prone areas, provision need only be made for adequate drainage of each site to prevent localized flooding, called “ponding”. Flood prone areas are best suited for conservation and passive recreational purposes. In the Land Use Plan, significant portions of Big Timber and Mantua Creeks are earmarked for open space purposes, partially to reduce damage from flooding.

URBAN FORESTS

Trees located along streets and within parks and yard areas create an “urban forest” in the Township, which is an important natural resource in developed areas. The Township also has beneficial woodlands in many areas of the municipality. It has been shown that trees in an urbanized environment, such as the developed portions of Deptford, have a positive influence on the local and regional climate. Trees assist in sequestering carbon from the air and help to moderate what would otherwise be faster global warming. They modify the local climate by reducing urban “heat island” effects as the leaves limit reflections off of impervious

surfaces, such as parking lots and roofs. Deciduous trees admit sunlight for heating in the cooler months. Urban trees also provide significant benefits since they take in carbon dioxide and emit oxygen, reduce noise, and provide habitat for insects, mammals and birds. Studies have also consistently shown that a well-established street tree canopy supports property values and positive perceptions of a town's quality of life.

Deptford Township recognizes the significant benefits of an urban forest, and has taken steps to encourage the development and preservation of a tree canopy. The Township included tree protection standards in its Unified Development Ordinance. The regulations promote the protection of trees in the development process as a method for controlling flooding, preventing soil erosion, reducing air and noise pollution, protecting the public health, safety and welfare of residents, and fostering quality development in the Township.

The Ordinance requires a tree management plan at the time of a minor subdivision, preliminary major subdivision or site plan application for properties with an area equal to or more than an acre. This plan requirement should be added to the submission checklists when ordinance revisions based on this document are enacted. The plan is to be assessed by the Environmental Committee and reviewed on the basis of existing drainage patterns, soil erosion and increased dust, impact on vegetative screening, woodland corridors, stream corridors, greenways and wildlife. Under the Ordinance, trees that are permitted to be removed must be replaced with trees approved by the Environmental Commission. Criteria for new trees include species longevity, native to area, hardiness, low maintenance and care, high wildlife values, size at maturity, soil retention, and value as a noise buffer. After the last master plan, the Township Council by ordinance also limited the amount of tree clearing that is not subject to the development approval process to further the retention of woodland.

Urban forestry could be promoted without substantial cost. For example, the Township could undertake an inventory of street trees through the Environmental Commission and volunteers. It could encourage tree planting with a matching grant program for residents who want to plant a tree. Eventually, the Township could work up to applying for Tree City USA status, like 150 other municipalities in New Jersey. Tree City USA is a cooperative program between the Arbor Day Foundation and the USDA's Forest Service Urban and Community Forestry Program, which sets standards for designation as a Tree City.

SCENIC CORRIDORS

A scenic corridor is a roadway that has outstanding scenic, natural, recreational, cultural, archaeological or historic significance. It is important to recognize, preserve and enhance selected roads possessing such a high degree of visual quality that driving, biking or walking along these roadways is a pleasurable and enjoyable experience. The guidelines contained in this section will serve as a growth management tool to guide future development of land along a scenic corridor and shall guide the review of development applications and capital improvement programs.

The 1992 State Development and Redevelopment Plan emphasizes the importance of scenic corridors with the following State Plan policy:

“Scenic corridors should be protected by appropriate means and preserved by using easement purchase, transfer of development rights, fee simple purchase and other innovative and effective mechanisms.”

This was followed by additional state policies with regard to scenic corridors in the 2001 State Development and Redevelopment Plan:

“Participate in the coordination of state, regional and local government identification and delineation of scenic and historic corridors throughout New Jersey, and take the necessary steps to protect them.”

“Manage development and redevelopment to maintain, complement and enhance scenic and historic values within identified and delineated scenic and historic corridors.”

“Protect scenic and historic corridors by appropriate means and preserve them by using easement purchase, density transfers, fee simple purchase and other innovative and effective mechanisms.”

Deptford Township is bisected by every major highway in southern New Jersey with the exception of the Garden State Parkway. With the completion of the New Jersey Turnpike in 1951, the announcement by the Federal government to begin construction of the Interstate Highway System in 1956 leading to I-295, the completion of the North-South Freeway (Rt. 42) in 1959 and Route 55 in 1989, the Township and surrounding municipalities were soon discovered as a region rich in development potential.

The development has, however, contributed to the diminishment and loss of many of the Township’s tree resources which provide for both scenic views along highways and as internal resources to be maintained. With clear and comprehensive policies, a balance between economic growth and the preservation of the natural and man-made historic, cultural and recreational features that compose our scenic resources is achievable.

BENEFITS OF SCENIC CORRIDORS

Scenic corridors provide the following benefits:

1. Provides an opportunity to be proactive in determining the fate of the natural and man-made environment surrounding the roadway.
2. It can generate tourism and contribute towards the local economy.
3. Supports property values.

4. Engages civic pride and a sense of identity for a municipality or region because of unique elements that may be located along the scenic roadway.

DESIGNATION PRINCIPLES

Deptford can designate scenic roadways within the municipality. Of the highways in the Township available, Rt. 55 has the most scenic quality due to its almost entirely forested frontage. Only in the vicinity of the Deptford Mall does development intrude and at the Rt. 47 interchange with the highway is the Kinsley Landfill. Otherwise, the highway maintains its scenic nature. As time goes on and vegetation infills, these existing gaps will also narrow. Rt. 55 is also the gateway to the Cape May Shore towns. Its lack of obvious development is a contrast to Rt. 42, which connects the Interstates in Bellmawr to the Atlantic City Expressway and is heavily congested and commercial along its frontage.

There is also a designation process sponsored by the NJ Department of Transportation which may lead to being called a Scenic Byway. This requires filing out a NJ Scenic Byways application and if approved, then developing a corridor management plan within five years of the designation. First, a sponsor group is created to act as a steering committee and booster of the designation. The more enthusiasm is evident, the more likely the application will be approved. The Commissioner of the Department of Transportation decides if the application is approved and if so, the road receives the designation. A management plan is then created and reviewed by a state panel, the Scenic Byways Advisory Committee. The management plan is ultimately also approved or not approved by the NJDOT Commissioner.

Positive attributes in designating wooded travel corridors include:

1. Forest Pattern. A forest stand consisting of mixed mature deciduous and evergreen trees that provide pleasant texture and color contrasts in all seasons. Clumps of young trees and undergrowth are not effective in creating a positive forest pattern.
2. Field and Forest Edge. Contrasts of open land which tend to be light green and tan against the deeper greens of forest lands contribute significantly to the scenic quality of a road.
3. Seasonal Effects. Any naturally occurring seasonal event in nature that provides a change in the scenery of the landscape and that is picturesque in setting. The main example of this in Deptford is the change in the color of leaves in the fall.

On the other hand, the presence of negative attributes such as tree removal scars, erosion, quarry activities, utility lines/substations, commercial strip development, inappropriate or obtrusive signs and lighting, dilapidated structures, gas stations, sales/storage facilities, waste disposal facilities and excessive road cuts also must be taken into consideration when designating a roadway as a scenic corridor. However, designation can aid in improving those portions that are presently not scenic.

PROPOSED ROUTE 55 SCENIC CORRIDOR

A state highway built to Interstate standards, Rt. 55 runs 40.5 miles from Deptford where it begins at Rt. 42 and terminates just south of the City of Millville. There is also an unconstructed portion that would end at the Garden State Parkway in Middle Township, but due to environmental factors has not been completed. The Route 55 freeway, also named the Veterans Memorial Highway, is a popular route connecting drivers from the Delaware Valley to the Jersey Shore resorts in Cape May County. It also serves as a commuting route northward to Philadelphia and the I-295 corridor to the north of Rt. 42. Rt. 55 runs for about 5 miles in Deptford. When the highway was under construction, a Native American burial ground was discovered which in turn led to attempts to stop its construction and created urban legends around construction accidents that occurred.



Source: Re-Max of NJ

The character of Rt. 55 remains scenic notwithstanding the fact that it runs down the middle of the Township which has a significant amount development. There is a strong, repetitious and unbroken forest pattern present along the roadside of Rt. 55. A mix of mature deciduous and evergreen tree species can be seen along the majority of its frontage within Deptford. Specific seasonal and ephemeral effects associated with the roadside landscape provide for a continual change in scenery for the corridor. In certain sections of the Route 55 corridor, field and forest edge contrasts are evident as well. These qualities warrant the designation of Rt. 55 as a Scenic Byway.

Scenic Byway Design Guidelines

The goal of these design guidelines is to preserve, to the greatest extent possible, the existing physical features of the scenic corridor. The following design guidelines are established for directing preservation and growth management efforts within the identified scenic corridors:

- I. All vegetation and plantings existing within 100 feet of the right-of-way of a scenic corridor is to be considered an integral part of the roadway environment and should be

preserved. Clearing of land on the right-of-way and adjacent lands should be discouraged and prohibited, respectively.

2. Where the use of guiderails or walls are necessary along a scenic corridor, brown, epoxy-coated guiderails or walls of natural indigenous material should be installed to minimize the visual impacts of the guiderail on the adjacent scenic resources.
3. No sign, excluding those for traffic safety, shall be visible to drivers on the roadway.

CONSERVATION LAND

The imposition of environmental regulations over the past three decades has greatly reduced or eliminated the development of many types of environmentally sensitive land. Most of the regulation of environmentally sensitive land and pollution prevention has reverted to the state level, including stream encroachment (development within the flood plain), tidal waters, freshwater wetlands, water withdrawals and effluent disposal. Some municipalities also administer complementary requirements that prohibit development or site disturbance next to streams, open bodies of water, net fill in floodplain areas and other types of environmental regulation. Land to be conserved is depicted on the Conservation Plan at the end of this element.

Conservation efforts should not be limited to environmentally sensitive areas. Development affects ecosystems in multiple ways, including interruption of wildlife habitat, effects on stormwater runoff, erosion, light pollution, and the heat island effect. Deptford Township has the opportunity to mitigate the extent of these impacts through preserving strategic pieces of property, such as wildlife corridors and high volume aquifer recharge areas. Preventing the use of inappropriate lands for construction purposes eliminates future problems and preserves substantial ecological benefits. The Open Space and Recreation Element discusses several techniques, including cluster development, sale or donation of development rights, conservation easements and site design techniques that should be considered to enhance preservation of open space and environmentally sensitive lands.

GREENWAYS

The greenways concept has become a standard tool in planning for recreation and conservation lands. Originally greenways were linear parks along rivers, interconnected open space in planned unit developments, or trails converted from abandoned railroad lines. The original concept has been broadened to encompass the linking of recreational areas, civic institutions and residential districts with open space corridors and walking paths. Many of the bicycle interconnections between neighborhoods proposed in the Circulation Element utilize greenways as the preferred method of linking them. This approach has gained new adherents as residents and government officials alike have discovered the benefits of greenways from the aesthetic to fitness. Benefits include creating new recreational

opportunities, increasing public awareness of the area's natural resources and their need for conservation, providing active and passive recreation activities, and retaining scenic vistas.

On a parallel track, environmental awareness and the evolving understanding of the importance of natural areas in controlling pollution and other man-made impacts have greatly increased. For example, providing more than one means of traveling to an attraction reduces passenger vehicle travel and hence air pollution. The necessity for conserving environmentally sensitive land is now well established by the scientific community.

The benefits of interconnection and reducing environmental impacts converge in greenways, which may be defined as any of the following: ¹⁸

- 1) A linear open space established along either a natural corridor, such as a river front, stream valley, or ridge line, or overland along a railroad right-of-way converted to recreational use, a canal, a scenic road, or other route;
- 2) Any natural or landscaped course for pedestrian or bicycle passage;
- 3) An open space connector linking parks, natural reserves, cultural features, or historic sites with each other and with populated areas; or
- 4) Locally, certain strip or linear parks designated as a parkway or greenbelt.

Much of the recent emphasis on creating greenways has focused on the preservation of stream corridors, and similarly, this has been emphasized as part of the Township's open space preservation efforts. Stream corridors include the water course or body, flood plain and flood fringe area, and often include freshwater wetlands and in some cases associated uplands. Establishing greenways along stream corridors allows the creation of an interconnected open space system. In this document, preservation of the stream corridor along Big Timber Creek is the primary emphasis for the creation of a greenway.

Even though the regulation of certain environmentally sensitive land is preempted by state law, separating buildings from stream corridors also has aesthetic benefits. Greenways can eventually be established by regulation through increased setback requirements from a stream or pond. Increased setback requirements further define the relationship between buildings, site improvements, and natural resources. Additionally, a purchaser of residential property, for example, has certain expectations about the use of the parcel which include outdoor household activities. A usable yard area that is free of wetlands, wetlands transition areas and flood plain will lower the potential for encroachments into regulated land. Thus zoning regulations governing minimum standards for usable yard area can be created.

¹⁸ From *Greenways for America*, Charles E. Little, John Hopkins University Press, Baltimore, 1990.

Stream corridor management also has an important role in wildlife management. Stream shading, for example, is important in controlling water temperature and maintaining the fish population. Deer and other fauna use stream corridors as migration routes, as well as water sources.

The State Planning Commission examined the distance requirements for various stream functions as part of its technical background for the first State Plan ¹⁹. A review of research reports resulted in the establishment of these guidelines:

<u>Stream Function</u>	<u>Buffer Width</u>
Stream bank stabilization	25-50 feet
Sediment control	65-150 feet
Nutrient removal	65-150 feet
Food energy	25-50 feet
Temperature control	50-80 feet
Fish cover	25-50 feet
Wildlife habitat	100-330 feet

The State through regulations issued by the Department of Environmental Regulation has established riparian buffers which are landscape strips around surface waters, such as streams, lakes, and rivers. A riparian buffer may be required that is from 50 to 300 feet wide along both sides of a waterway, depending on how the waterway is classified by NJDEP. Typically, a 300-foot buffer would only be required alongside Category 1 streams and there are no such classified streams in Deptford. A 150-foot riparian buffer is typically required along tidally-influenced streams such as Big Timber Creek. The buffer is measured from the top of bank of a stream outward from the surface water. Virtually every waterway that collects runoff from at least 50 acres of land requires a riparian buffer. Any naturally occurring stream that has a discernible channel also requires a buffer no matter how small the drainage area.

CONSERVATION PLAN

The Conservation Plan found at the end of this document is a synthesis of environmentally sensitive land described in the natural resources section. It indicates land that is particularly well suited for conservation purposes or where development needs to be designed with extra

¹⁹ *The New Jersey Freshwater Wetlands Protection Act As It Relates to Stream Corridor Buffer Considerations in the State Development and Redevelopment Plan*, January 11, 1988, Rogers, Golden & Halpern, Philadelphia, PA

precaution to reduce environmental impacts. In the review of land development applications, this plan can serve as a means of flagging projects in areas of important natural resources.

SUMMARY AND RECOMMENDATIONS

The following recommendations are divided into subsections around individual topics and together can aid in implementing the preservation of land as outlined in the Conservation Plan.

Land Protection

- 1) The Planning Board shall continue to protect environmentally sensitive land in the development review process.
- 2) Preserve additional conservation and other open space by encouraging developer contributions and dedication of conservation easements.
- 3) Site design should maximize the quantity and quality of open space. Use of the Environmental Resource Inventory as a resource is discerning open space quality should be used.

Preservation of the Urban Forest

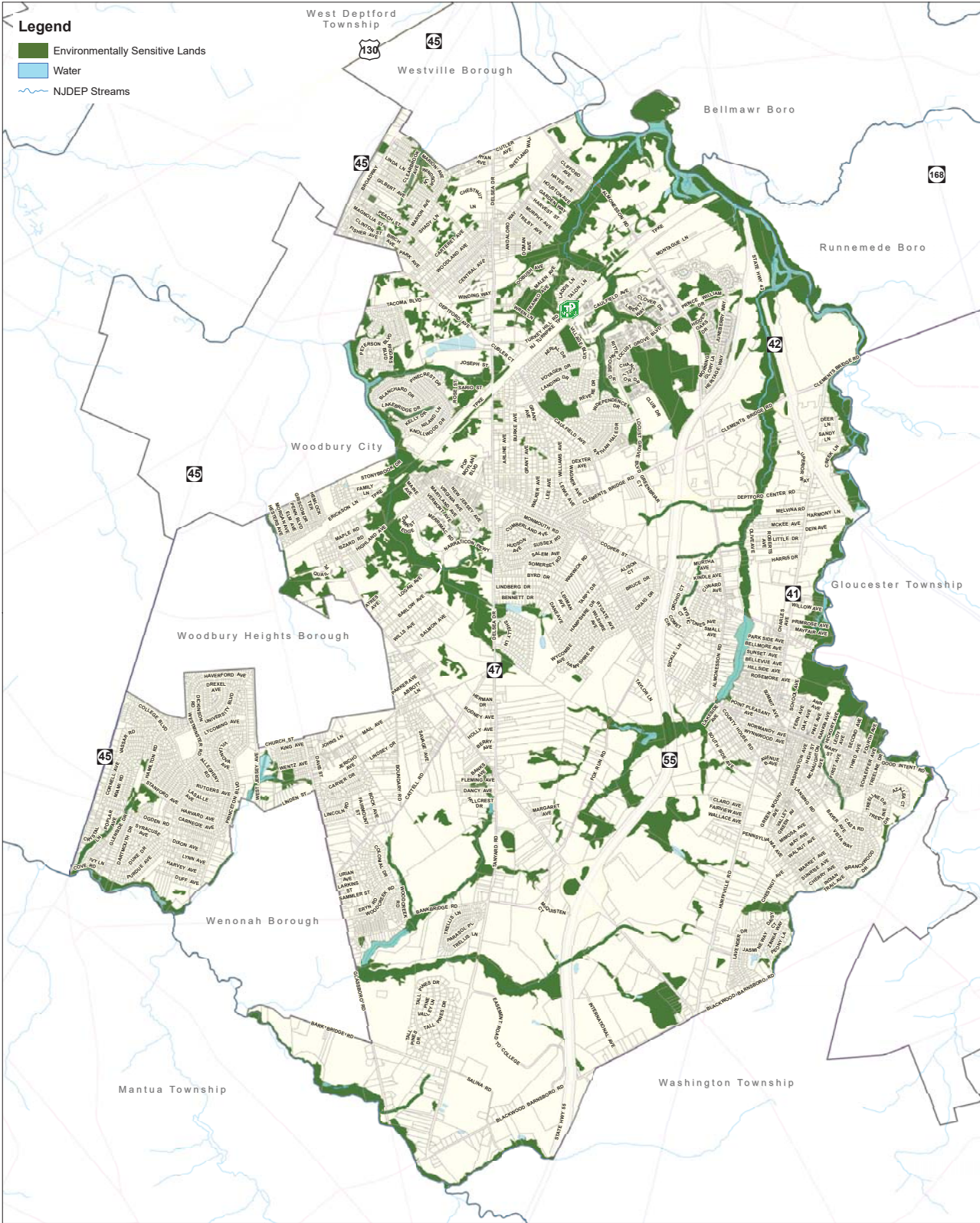
- 1) Consider the creation of a municipal tree nursery.
- 2) Create a tree management plan that outlines tree maintenance standards and procedures.
- 3) Maintain existing street trees along with other parts of street infrastructure.

Scenic Corridors

- 1) Establish a Scenic Byway designation through the NJDOT for Rt. 55 in Deptford.

Greenways and Stream Corridor Buffer Area

- 1) Create a greenway along the Big Timber Creek stream corridor, which will serve as passive recreation and conservation lands. In doing so, coordinate activities with the NJ Department of Environmental Protection who is also acquiring lands.
- 2) Establish a stream corridor buffer area in the Township's Uniform Development Ordinance.



Environmentally Sensitive Lands, Wetlands, 100 Year Flood Plain, Tidal & Non-Tidal Waterways

Conservation Plan

LOCATION:
Deptford Township, Gloucester County, NJ

DATE:
January 11, 2017

Clarke Caton Hintz ● ● ●
Architecture
Planning
Landscape Architecture

Source: Gloucester County Parcel (2014),
NJ Office of Information Technology (NJ OIT),
Office of Geographic Information Systems (OGIS)
Wetlands source: NJDEP Land Use Land Cover (2007)
NJ Department of Environmental Protection (NJDEP),
Office of Information Resource Management (OIRM),
Bureau of Geographic Information System (BGIS)

OPEN SPACE AND RECREATION PLAN ELEMENT

INTRODUCTION

The Open Space and Recreation Element is closely related to the Conservation Element and the Community Facilities Element. Open space includes active recreation, passive recreation, and conservation lands and represents a continuum of use from the most to least intensively used land, respectively. While preserved farmland is in one fashion also open space, Deptford has no farms in either the eight year or permanent preservation Program. Gloucester County's efforts on farmland preservation have also focused more on rural communities. Consequently, this element will concentrate on the first three types of open space.

Master plans, of which this element is a part, often analyze and recommend how land should be developed or redeveloped in response to economic, social and cultural factors. Open space, on the other hand, is land that is not intended to be developed or only minimally developed for active recreation and leisure facilities. Open space produces many benefits to the municipality. It provides opportunities for recreation, land for the preservation of wildlife habitats and other natural environments, a gathering place for community events and visual relief from urbanization. Setting aside land for these purposes also supports property values.

Active recreation consists of organized sports with formal rules or leisure activities that usually require specialized fields or equipment to play games. Baseball, football, soccer and tennis are examples of active recreation. Deptford has many youth sports organizations devoted to active recreation, as will be described further below. Passive recreation includes less formal activities, such as kite flying, bird watching and hiking. These contrast with conservation areas that are intended to be left in their natural state for wildlife refuges, as buffers between developments or to protect environmentally sensitive land and water resources. Conservation areas are identified by making a natural resource inventory of the municipality (see Conservation Element and Environmental Resource Inventory). In this element, the stream corridors identified in the Conservation Element are replicated in the Open Space and Recreation Plan for conservation purposes. In the Land Use Plan Element, these are related to Township land development policies and state-wide environmental policies and regulations.

This element will begin by examining Deptford's existing recreation uses and open space lands. The Township's recreation programs and other sports associations will be described in brief. The amount of land devoted to recreation will be compared to state and national standards. Techniques for preserving open space and funding sources are discussed. Lastly, recommendations are proposed to complete the element.

PARKS, RECREATIONAL FACILITIES, AND OPEN SPACE INVENTORY

The Township currently owns nearly 560 acres of open space that is intended for recreation and conservation purposes. Deptford Township has a diverse variety of park and recreation facilities ranging from small neighborhood playgrounds to large athletic facilities to tranquil natural areas. Most of the parks in Deptford's inventory are used for active recreation. Their location is shown on the Open Space and Recreation Plan, found at the end of this element. The following is a description of each municipal park. This information is summarized in Table I. Table II lists land held by other governmental or land trust entities and Table III includes open space privately held by homeowners' associations.

Deptford Open Space Descriptions

ANDALORO FARM, ANDALORO WAY– Located in the Westville Grove section of the Township, Andaloro Farm is the newest open space acquisition of the Township. The farm was identified as a potential acquisition property in the 2007 Master Plan and was purchased in February 2016. At the present time, it is passive recreation.

ALLEN PARK, MAIL AVENUE – Located in the Jericho section of the Township, Allen Park is a medium sized community park containing tennis courts, basketball courts, a playground, and restroom facilities.

ALMOLIND PLAYGROUND, ELGIN STREET – A small neighborhood playground located just south of Cooper Street. In addition to the playground, the park also has a basketball court and small baseball field.

ALMONESSON PARK/ALMONESSON CREEK PARK, COOPER STREET – These two adjoining parks separated by Cooper Street together comprise more than 25 acres and combine passive and active recreation. They consist of a ball field along with wooded areas and a walking trail that parallels Almonesson Creek. Almonesson Park includes Almonesson Lake, a man-made water body that is Deptford's largest. Public access to the lake is from Good Intent Road.

CARSON PLAYGROUND, CARSON AVENUE – A small neighborhood playground that is located in the Woodbury Gardens neighborhood off of Peterson Boulevard. The park consists of a paved court and playground. The park also provides access to Stewart Lake.

CHURCH STREET PARK, CHURCH STREET – A neighborhood park located at Mail Avenue and Church Street. The park contains a large open field and fenced in basketball courts.

DEPTFORD TOWNSHIP BASEBALL COMPLEX/STAUFFER FIELD SOFTBALL COMPLEX/ RECREATION CENTER, MONTAGUE LANE – One of the newest facilities in the Township's park and recreation system is the large baseball, softball and recreation complex located off of Almonesson Road in the northeastern portion of the Township in between the NJ Turnpike and Heritage Village. This large 193 acre site contains 8 baseball fields and 6 softball fields including two lighted fields. The site serves as the centerpiece of the Township's little league and softball programs and is

heavily used. The new recreation center building, located on the same property, contains an indoor basketball court, wrestling room, and all-purpose room along with shower facilities.

DEPTFORD TOWNSHIP SOCCER COMPLEX, CATTEL ROAD – Opened in 2005, this large, 127-acre facility contains seven regulation size soccer fields, including one with lights, and three mini-fields. It serves as the home for the Township’s popular youth soccer program.

CHARLES FASOLA PARK – This 58-acre park is one of the largest and most centrally located parks in the Township. Devoted to both active and passive recreation, it contains softball fields, football fields, playgrounds, a pond and gazebo, picnic pavilion, and restroom facilities. The property abuts Deptford Township High School to the east. An expansion of the park has been proposed, which would encompass the bulk of the wooded land to the south and further connect the park to the recreation facilities at the high school.

HARVEY PLAYGROUND, HARVEY AVENUE – A small neighborhood playground located in the southern portion of the Oak Valley neighborhood on Harvey Avenue. It contains a playground and a small lawn area.

KATHLEEN MAIER PLAYGROUND, MONMOUTH ROAD – A small neighborhood playground located behind the Municipal Building on Monmouth Road. The park contains swings and a playground area surrounded by almost an acre of open area.

LAKE TRACT PLAYGROUND, WARD DRIVE – This small neighborhood playground is located just east of Highland Avenue and is across the street from the Township Library. The park contains a basketball court and a playground area.

LARKIN PARK, LARKIN STREET – This small neighborhood park is located in the East Wenonah section of the Township. The park consists of an open field and has sufficient room for a baseball or football field.

LEADBEATER PLAYGROUND, PINE AVENUE – A small neighborhood playground located in the Blackwood Terrace neighborhood. The park contains swings, a playground area and a basketball court.

MARION PLAYGROUND, MARION AVENUE – A small neighborhood playground located in the Westville Oaks neighborhood in the northern portion of the Township just south of I-295. The park contains a playground area and a basketball court.

MONTCLAIR PLAYGROUND, MONTCLAIR COURT – A small neighborhood playground located in Oak Valley. The park contains swings and a basketball court.

OAK VALLEY LITTLE LEAGUE, PRINCETON BOULEVARD – This almost 22 acre facility, run by the Oak Valley Little League organization, consists of three baseball fields, bleachers, and a concession building. It is located in the eastern section of Oak Valley adjacent to the railroad tracks.

OAK VALLEY NATURE PARK – Purchased in 2006 by the municipality to preserve the headwaters of a tributary of Mantua Creek in Oak Valley. Connects to Montclair Playground and also has access from Stanford Avenue.

PARK AVENUE PLAYGROUND, PARK AVENUE – This small neighborhood playground is located in the North Woodbury neighborhood. The park contains a basketball court and playground equipment.

PRINCETON PLAYGROUND, PRINCETON BOULEVARD – One of three small neighborhood playgrounds located in the Oak Valley neighborhood. The park contains swings, a playground area, and a basketball court.

STEWART LAKE PARK (CARSON/LAKEBRIDGE SECTIONS) – Stewart Lake was formed by the damming of Woodbury Creek in the early 1960's and is a shared public open space between Woodbury City and Deptford; the creek forms the boundary. In Deptford the two areas comprise more than 32 acres of woodland and meadow adjacent to the lake. Access is via the Lakebridge neighborhood (Kelly Drive and Mullray Court) or Carson Playground. A walking trail partially follows the bank of the lake.

TAYLOR'S FIELD FOOTBALL COMPLEX, FOX RUN ROAD – This 8 acre facility is the home of the Township's Pop Warner football program. It contains a lighted main field and a smaller practice field.

TIMBER CREEK PARK, HURFFVILLE ROAD – This almost 28 acre parcel adjacent to Big Timber Creek, just south of Cooper Street, contains hiking trails and picnic tables and provides vistas overlooking the creek. The site is contiguous with the Old Pine Farm Natural Land Trust's parcels located just to the south.

VETERANS PARK, COLLEGE BOULEVARD – Veterans Park was created from unused land at Oak Valley Elementary School in 2015. It occupies approximately 4 of the school's 11.5 acres and contains statuary and a memorial to persons who served in the armed forces.

WHISPERING LAKES, DEPTFORD AVENUE – Identified for acquisition in the 2007 Master Plan, the municipality acquired more than 22 acres and the three small lakes that give the park its name in October 2014. The remaining land wraps around the park and is identified for additional open space acquisition (*see* Open Space Needs).

WOODBROOK PARK, GOOD INTENT ROAD – This 2.5-acre mini-park, located just off of Good Intent Road, is mostly comprised of an open field. It contains a walking path, playground and swings. Access is also provided from Crestview Drive.

PARK CLASSIFICATIONS

The National Recreation and Park Association (NRPA) is an organization devoted to promoting and developing recreational opportunities that has categorized parks into three types based on size and service area. The categories of parks are mini-parks, neighborhood parks and community parks. Mini-parks are usually playgrounds, tot lots, or other small scale parks within close proximity to residences. A mini-park is categorized by the NRPA as one acre or less in size, though larger areas are common in the Township. The NRPA recommends that neighborhood parks be 15 acres or larger. Such parks commonly constitute home parks for youth sports organizations and serve a development of homes. Community

parcs should be at least 25 acres but preferably larger and are commonly multifunctional entities intended for a wide variety of recreation. Aside from these active and passive recreation categories, an additional park type for conservation has also been included in the following tables. Table V-1 provides a summary of municipal parks and types.

Table V-1. Summary of Existing Municipal Parks, Conservation & Other Township Lands.

Name of Site	Acres	Park Type	Facilities/Character
Andaloro Farm	30.86	Community Passive	Agriculture and woodland
Allen Park	17.83	Neighborhood Active	Tennis courts, basketball court, football field, double bay swing set, playground unit designed for children 2-12 yrs. of age, double bay swing set and restroom facilities.
Almolind Playground	1.73	Mini-Park Active	Basketball court, small ball field, double bay swing set, playground unit designed for children 2-12 yrs. of age.
Almonesson Creek Park	9.88	Passive Recreation	Park consists of wooded walking trails and a gazebo.
Almonesson Park	15.42	Neighborhood Active	Ball field; Park connects to Almonesson Creek Park.
Carson Playground	4.44	Mini-Park Active	Basketball court, double bay swing set, playground unit designed for children 2-12 yrs. of age.
Church Street Park	3.06	Mini-Park Active	2 basketball courts
Deptford Twp. Baseball Complex	146.10	Community Active	8 baseball fields (one lighted)
Deptford Twp. Recreation Center	0.51	Community Active	Full size basketball gymnasium w/bleachers, wrestling room, all-purpose room, restroom facilities w/showers.
Deptford Twp. Soccer Complex	126.90	Community Active	7 Official Soccer fields (one w/lights), 3 mini-fields
Fasola Park	58.34	Community Active and Passive	4 softball fields, football field, pavilion for picnics, pond w/fountain, 2 playgrounds designed for children 2-12 yrs. of age, double bay swing, restroom facilities.

Name of Site	Acres	Park Type	Facilities/Character
Harvey Playground	1.12	Mini-Park Active	Double bay swing set, designed for children 2-12 yrs. of age.
Kathleen Maier Playground	0.91	Mini-Park Active	Double bay swing set, playground unit designed for children 2-12 yrs. of age.
Lake Tract Playground	0.75	Mini-Park Active	Basketball court, double bay swing set, playground designed for children 2-12 yrs. of age.
Larkin Park	2.60	Mini-Park Passive	Primarily open space
Leadbeater Playground	0.23	Mini-Park Active	Basketball court, double bay swing set, playground unit designed for children 2-12 yrs. of age.
Marion Playground	0.29	Mini-Park Active	Basketball court, double bay swing set, playground designed for children 2-12 yrs. of age.
Montclair Playground	0.51	Mini-Park Active	Basketball court, double bay swing set.
Oak Valley Little League Complex	21.90	Neighborhood Active	2 little league fields, a major league field.
Oak Valley Nature Park	6.31	Conservation	Adjoins Montclair Playground.
Park Avenue Playground	0.21	Mini-Park Active	Basketball court and playground unit designed for children 2-12 yrs. of age.
Princeton Playground	1.54	Mini-Park Active	Basketball court, double bay swing set, designed for children 2-12 yrs. of age.
Stauffer Field Softball Complex	46.34	Community Active	6 softball fields (one lighted)
Stewart Lake Park (Carson Avenue Side)	17.40	Conservation	Deptford side bank of Stewart Lake
Stewart Lake Park (Lakebridge Side)	14.80	Conservation	Deptford side bank of Stewart Lake
Taylor's Field Football Complex	8.34	Community Active	Lighted game field, a practice field
Timber Creek Park	27.52	Neighborhood Passive	Picnic tables, benches, wooded hiking trails along Big Timber Creek
Veterans Park	3.27	Community Passive	Memorial and ceremonial space, benches
Whispering Lakes	22.24	Community Passive	Three lakes; part of a future community-wide facility

Name of Site	Acres	Park Type	Facilities/Character
Woodbrook Park	2.46	Mini-Park Active	Double bay swing set, playground unit designed for children 2-12 yrs. of age
Total Acres	593.81		

Source: Deptford Township Department of Recreation

The total represents an increase of 62.68 acres, or 11.8%, of municipal open space since 2007.

FASOLA PARK REDEVELOPMENT

Fasola Park is Deptford’s main community park. The park provides a wide variety of recreational functions and is the preferred location for community-wide events. But among officials and residents, it had become increasingly clear that the park was no longer meeting the needs of the Township in its present form due to changing leisure time desires in the population, the decision to remove a satellite garage on the property and the installation of a significant new playground. This led to the realization that a guiding document was needed to direct these changes. The Township Planner, with the input of an important steering committee, devised a plan to revitalize the park. First it addressed the problem of high speed traffic through the park with traffic calming measures. Secondly, the plan created a central spine anchored by an amphitheater with hillside seating that led to an existing pond. The central spine is a focal element of the park and provides space for vendor use and adjacent parking. The pond is proposed to be renovated and a boardwalk and barrier free “beach” created for access to the water. A park office was conceptually designed with views over the entire park. The office could also serve as ticket counter and concession stand as well as being a base for video surveillance. New pathways and trails were planned as well as refurbishment of the existing athletic fields. Lastly, additional land was identified for future park expansion, which would increase the park area from 58 to 116 acres. With the implementation of this twenty year plan, Deptford Township will keep Fasola Park as the centerpiece of its park system.

NON-MUNICIPAL GOVERNMENT, LAND TRUST AND OTHER OPEN SPACE

In Table V-2, several purchases along the water course demonstrate the state’s interest in the preservation of the Big Timber Creek’s stream corridor. The largest of these is Block 1.03, Lot 1, known as the Andaloro Wildlife Management Area located between Almonesson Road and Big Timber Creek in the extreme northern part of the Township. The State purchased this property in February 1999 (from the same family as the Township purchased Andaloro Farm). In 2005, NJDEP also purchased additional property between Rt. 41 and Big Timber Creek for conservation purposes. The state considers the tidally influenced part of Big Timber Creek as a component of the Delaware River Greenway which is being pieced together on both sides of the river corridor.

The Maple Ridge golf course located in the southwest corner of the municipality and straddling the boundary between Deptford and Mantua, was acquired after a several year effort by a grassroots organization and the South Jersey Land and Water Trust, along with Gloucester County and the New Jersey Department of Environmental Protection. These latter two governmental agencies provided the large majority of the funding for the purchase in November 2015. The property has now been renamed the Tall Pines State Preserve. The South Jersey Land and Water Trust will have ongoing responsibilities for maintaining this open space.

Lastly, the Old Pine Farm Land Trust has purchased land that for the most part is contiguous to the Township’s Timber Creek Park. They also own land internal to Blackwood Terrace. In 2009, a developer deeded a one acre parcel to enlarge the land trust’s holding in Black Terrace. This lot was consolidated with Block 350, Lot 1. The Township has also been in discussion with the Trust to deed tax foreclosure lots between Good Intent Road and Big Timber Creek east of First Avenue to aid the group in obtaining preservation grant money.

Table V-2. Non-Municipal Government, Land Trust and Other Open Space

Name of Site	Acres	Type	Comments
Andaloro Wildlife Management Area	56.58	Conservation	NJDEP owned Wildlife Management Area; part of the Delaware River Greenway
Woodbury Soccer Complex	8.85	Active	City of Woodbury’s soccer complex constructed in 2008.
Big Timber Creek	14.50	Conservation	NJDEP owned/NJ Natural Lands Trust managed conservation land, including island, adjacent to Big Timber Creek
Old Pine Farm Natural Lands Trust	50.92	Conservation	Preserved land along Big Timber Creek in Blackwood Terrace. Conservation land with some hiking trails.
Tall Pines State Preserve	62.71	Conservation	Former Maple Ridge golf course owned by NJDEP/managed by South Jersey Land Trust.
Gloucester Catholic H.S. Athletic Fields	20.20	Active	Three field hockey and two football fields on Barnsboro-Blackwood Rd. for the parochial high school in Gloucester City (under construction).
Total Acres	213.76		

Sources: Gloucester County Tax Assessment Records, Deptford Township Tax Maps and Planning Board Applications

The Gloucester Catholic High School athletic fields have been included in this table because they are a principal use of the property, in contrast to other athletic facilities associated with schools where they are an accessory use.

HOMEOWNER'S ASSOCIATION OPEN SPACE

Table V-3, Homeowners' Association Open Space, reveals that privately held open space accounts for a significant portion of the preserved lands in Deptford. Created through the development review process, these lands serve similar functions as the Township's parks.

Table V-3. Homeowners' Association Open Space.

Homeowners' Association	Block	Lot(s)	Acreage	Access
Heritage Village	1.10	28	8.90	Almonesson Rd.
	1.15	34	4.58	Juneberry Way
Nicole Court	4.01	2	12.35	Caulfield Rd.
Locust Grove Common Facilities	5	2	13.13	Clover Dr.
	5	7	12.72	Village Blvd.
	5	16	39.64	Valley Forge
	5	17	24.97	Caulfield Rd.
	5.04	1	0.50	Voyager Dr.
	5.04	55	14.58	Caulfield Rd.
	5.04	76	0.34	Caulfield Rd.
	5.07	35	2.10	Voyager Dr.
	5.17	1	0.44	Betsy Ross
	5.18	22	1.75	Revere Dr.
	5.23	1&2	1.22	Locust Grove Blvd.
5.24	1	2.91	Locust Grove Blvd.	
Washington Crossing	5.11	73	3.32	Caulfield Rd.
Liberty Place	5.21	19	6.14	Locust Grove Blvd.
Villages at Rittenhouse	5.39	1	16.53	Rittenhouse
	5.41	85	10.92	Locust Grove Blvd.
	5.42	62	2.34	Locust Grove Blvd.
Lakebridge Community Services	82.01	11.01	2.28	Mullray Ct.
	82.11	11	1.64	Knollwood Dr.
Landings at Cooper Street	199	40&62	10.74	Kraemer Ct.
Willow Ridge	386.02	16	3.82	Jasmine Way
	386.04	25	0.55	Bluebell Lane
	386.07	39	1.66	Bluebell Lane
Reserve at Willow Ridge	386.08	27	1.44	Zinnia Way
Loucroft Farms	399.08	7	24.00	Tall Pines Dr.
Bridlewood	399.10	2	6.00	Trellis Lane

Homeowners' Association	Block	Lot(s)	Acreage	Access
Fox Trail Estates	399	7	87.60	Woodbury-Glassboro Rd.
	399.15	13	2.24	Daniel Dr.
Orchid Court	641	25	3.06	Cooper St.
Lakes at Bankbridge	656	39	1.89	Carly Ct.
Heritage Woods	662	9	21.82	Bull Run
Total Acres			348.12	

Sources: Gloucester County Tax Assessment Records, Deptford Township Tax Maps and Planning Board Applications

The open space identified in Table V-3 may include storm water management facilities; however, if an entire lot is used for that purpose it was excluded from this table. Locust Grove Common Facilities Homeowners Association and the Lakebridge Homeowners Association also include active recreation and community centers. The total acreage under homeowner association control has increased by 102 acres since 2007.

SUMMARY OF OPEN SPACE RESOURCES

Deptford's total area is about 11,224 acres (17.56 square miles). Adding together the municipal, state, county, land trust and homeowners' association open space lands, Deptford has a total of 1,155.69 acres in some form of protected status, an increase of more than 254 acres over 2006. Municipally owned parks and recreation land is equal to 5.3% of the total area. Lands owned by other levels of government or land trusts for conservation add 1.9% and homeowners associations another 3.1%. The open space total is 10.3%, a rise from 8% in 2007. In the 2007 Master Plan, a goal was established to increase total public and private open space to 10% of the Township's land area and this goal has been achieved. A new goal is established in this Master Plan to acquire an additional 240 acres, to 12.1% of the total land area of the municipality. This could include the remainder of Whispering Lakes, the expansion site next to the Deptford Soccer Complex or an expansion of Fasola Park.

GUIDELINES FOR THE ADEQUACY OF OPEN SPACE

There are several guidelines against which the adequacy of the amount of open space and recreation facilities in the Township may be measured. The adequacy is determined by comparing the Township's population to its open space and its available recreational facilities. Recreational programming varies considerably by municipality. Deptford supplies a wide range of recreational opportunities for residents.

New Jersey Green Acres Program

The Green Acres program recommends a desirable goal of 8 acres of land per 1,000 persons for conservation, passive and active recreation open space earmarked for municipal purposes. Application of the guideline results in a desirable standard of 246 acres for the current estimated population of 31,000 people. The Township, which has 594 acres of owned open

space, easily meets the minimum standard, without including the 213 acres of other open space and 348 acres of land held by homeowners' associations.

The Green Acres guidelines also suggest that a minimum of 3% of the municipal land area be set aside for all types of open space; the municipal total is to 5.3%. By both of these broad measures, the Township meets the minimum suggested guidelines at the state level.

National Recreation and Park Association Guidelines

The National Recreation and Park Association (NRPA) has published a number of standards for "developed" open space. While the organization has moved away from a gross acreage basis for determining recreational needs (preferring a survey of users, instead), a range of 6.25 to 10.5 acres of developed park land per 1,000 residents had been previously used by them in estimating the necessary land area. The population estimate for Deptford in mid-2015 (the latest available) is 30,569 persons.²⁰ By calculation, the amount of active recreation space should be a minimum of 192 to 323 acres of developed park land. By these standards, the Township is above this range, with 462 acres, or 15.1 acres per 1,000 people.²¹

It should be noted that these standards are exclusive of recreational facilities provided by school districts or non-active open space. A minor amount of land that has been included as active recreation, particularly in the larger parks, also contains environmentally sensitive land that should be preserved from development, such as the east end of the Deptford Recreation complex on Montague Lane which adjoins the Big Timber Creek. The amount devoted to active recreation would still fall within the recommended range even if this land was excluded from the calculation.

Because of the higher household incomes in New Jersey (compared to the U. S. average) many households are able to purchase their recreational needs from commercial providers. For example, indoor soccer facilities and ice hockey rinks are provided by commercial operators in South Jersey. In Deptford, there is a commercial indoor volleyball facility. This situation lessens the need for the municipality and school district to provide certain active recreation facilities.

ACTIVE RECREATION NEEDS

This statistical information would seem to suggest that Deptford's recreational needs have been satisfied and that active recreational space, at least, is amply found in the Township. However, scheduling conflicts and the need to rest fields from use means that even as some participation in sports lessens and grows in others, it is not always feasible to simply restripe

²⁰ - <http://lwd.dol.state.nj.us/labor/lpa/dmograph/est/mcd/gloest.htm>, accessed November 17, 2016.

²¹ - Excludes passive recreation and conservation land from total municipal open space. Fasola Park was assumed to be half active and half passive recreation.

a field for a different sport. The configuration of baseball fields compared to soccer or field hockey are just an obvious example of the problem. In addition, there is a trend towards year round or three season outdoor sports in the region, with, for example, fall, indoor winter and spring soccer. Additional factors affecting demand for fields include a trend in Deptford towards more sports participation by girls which increases the need for fields and efforts to involve more adults in active sports as the value of better fitness becomes more apparent over time. Because of the pressure on field use, field resting rarely occurs and consequently field conditions become rough and maintenance costs rise.

Table V-4, indicates the number of youth sports participants in Deptford in 2006 compared to 2014.

Table V-4. Youth Sports Organizations, Participants, 2006 and 2014

Organization	Location	No. of Participants 2006	No. of Participants 2014	Percent Change
Deptford Softball	Stauffer Fields (Almonesson Rd.)	320	292	-9%
Deptford Basketball	Recreation Center (Almonesson Rd)	350	273	-22%
Deptford Little League	Little League Complex (Almonesson Rd.)	330	350	6%
Deptford Wrestling	Recreation Center (Almonesson Rd.)	74	82	11%
Oak Valley Basketball	Oak Valley School (College Blvd.)	100	100	0%
Oak Valley Little League (Baseball & Softball)	OVAA Complex (Princeton Blvd)	315	250	-27%
Deptford Football	Taylor's Field (Fox Run Rd)	421	286	-7%
Deptford Cheerleading	Taylor's Field (Fox Run Rd)		107	
Deptford Soccer	Soccer Complex Cattel Rd.	560	725	29%
Total Participants		2,470	2,465	-0.2%

Sources: Deptford Sports Organizations

Participation has increased for soccer and decreased for football, baseball and basketball. The increase in soccer participants suggests that there is a demand for additional soccer fields even though there are presently 10 fields at the Deptford Soccer Complex, seven full size and three small ones. The Deptford Soccer Complex has undeveloped land located to the northeast of the existing fields. Since the development of the complex required extensive site remediation, additional site remediation may be required to expand the facility. Furthermore, vehicles have

been observed parking on grass and the undeveloped portion of the property, which indicates that parking facilities are inadequate. The Deptford Soccer Complex also adjoins the northerly portion of the former Lakes of Bankbridge planned unit development that remains undeveloped. This land was identified as an expansion area for the soccer complex in 2007 and that designation continues with this master plan. Acquisition of all or a portion of this property would permit the construction of additional fields and most likely there would be sufficient land for other sports, such as lacrosse, that are not presently offered in Deptford. The recreational complex would also benefit from a second means of access from Woodcreek Road. Presently access is only available from Cattell Road. The area for potential acquisition - Block 398, Lot 32 - is 84.21 acres in size and is presently farmed (see Open Space Needs).

RECREATION PROGRAMS

Recreation programs are administered by the Deptford Department of Parks and Recreation and a number of youth sports organizations. The Township Council has also appointed a Recreational Advisory Committee made up of eight regular and four non-voting ex-officio members. The Recreational Advisory Committee helps to promote and coordinate recreational and park services and plays an active role in overseeing the program budget for the municipality.

Recreational programs offered by the Department include charity runs, Living Arts trips to cultural events, and activities for seniors at the Senior Center on Tanyard Road (see Community Facilities Element). The Department also organizes a summer camp for youths 6-12, coordinates the scheduling and registration for the various youth sports, and offers a family movie night on a monthly basis. It also sponsors trips for Deptford residents to nearby attractions.

OPEN SPACE NEEDS

Open space is more than the active recreation described so far. Open space provides benefits for the ecology of the Township and region by supporting environmentally sensitive lands such as flood plains, freshwater wetlands, aquifer recharge areas, and the biota that depends on natural systems. Open space creates vistas of scenic beauty; preserves view sheds of historic properties, and provides a setting for buildings and people. Maintaining and preserving open space in the face of development pressure is very difficult, because by their democratic nature, governments are slower to act than commercial interests. The land remaining undeveloped in Deptford is sought for many different and often competing purposes. The estimated population of Deptford is about 30,600 people and is projected to reach about 36,000 people in the next 25 years. Open acquisition is an investment in the quality of life of the municipality and will yield far reaching benefits for the future. An achievable goal is to set aside 12.1% of Deptford's land area in preserved open space, or 1,360 acres, with the large majority controlled by the municipality. Counting open space held by

private groups, the Township has 10.3% of its land area preserved. With 1,124 preserved acres identified, the Township would need to obtain an additional 236 acres to meet this goal.

In Table V-5, seven sites have been identified for potential preservation as open space. Larger parcels have been favored for several reasons. By their size, they have the ability to retain attractive vistas, can serve a larger population, meet the need for the three major kinds of open space and are easier to administer and operate efficiently. Some sites were included to address the lack of recreation in specific neighborhoods. Much emphasis was also placed on the ability to expand existing parks, such as Fasola Park and the Deptford Soccer Complex. The Friends of Israel site is identified for preservation in this document but not through the Township or County. The intention is for the state to acquire such rights as feasible since they were the original purchasers of the Andaloro Wildlife Management Area and its preservation would fit into their larger plans for the Delaware River Greenway.

In 2007 Whispering Lakes, at the juncture of Delsea Drive and Deptford Avenue, was designated for a new community park. Since that time the Township has acquired the defining feature of the future park, its three small lakes. A portion of this land is owned by the NJ Turnpike Authority who has sought to sell it, but it is virtually all freshwater wetlands. It is also known that dumping occurred on the remainder of the tract. The extent and nature of the dumping would need to be determined under a due diligence process. This new community-wide park facility is the top priority for open space acquisition, but should it prove infeasible due to its remediation cost, other potential open space as indicated in Table V-5 can fulfill its role.

Table V-5. Sites Identified for Preservation and Open Space.

Name of Site	Acres	Comments
Block 1.03, Lot 2-4, 7-10	137.35	Friends of Israel. Intended for conservation should the property owner wish to sell. Located on Almonesson Road north of the NJ Turnpike and on Big Timber Creek, next to NJDEP-owned land. A logical extension of the Andaloro Wildlife Management Area.
Block 82, Lots 1-4, 11, 17; Block 82.13, Lots 1-2; Block 453, Lots 1-4; Blocks 454, Lots 2, 4	118.23	The remainder of Whispering Lakes after the acquisition of 22.24 acres that contain the three small lakes. The NJ Turnpike owned lots have been offered for purchase to the Township, but these lands are wet and have diminished value.
Block 493, Lots 2, part of 3; Block 494, Lot 1, Block 496, Lot 1; Block 497, Lot 8; Block 498, Lot 1; Block 499, Lots part 2, 3	13.98	Undeveloped parcels adjacent to Big Timber Creek; some Township owned but not identified for open space; others associated with historic Perce-Jaggard House (Block 493, Lot 1)

Name of Site	Acres	Comments
Block 499, Lot 2; Block 383, Lot 8	3.16	Connection to Timber Creek; wooded area, could provide a trail connection from Township owned parcels along Big Timber Creek next to Perce-Jaggard House across Cooper Street to Timber Creek Park
Block 233, Parts of Lots 38, 39, 40, 41, 44, 45, 48 and 69	57.50	Fasola Park Expansion; could provide expanded community use and a better connection to facilities at Deptford High School
Block 398, Lot 32	85.81	Former Phase II of Lakes of Bankbridge development. Adjoins Deptford soccer complex to the south.
Block 399, Lots 4-6, 8 and 17	66.18	Additional phase of Lakes of Bankbridge encompassing Monongahela Lake on south side of Bankbridge Road.
Potential Additional Open Space	513.07	

In the 2007 Master Plan, land north of the Kinsley landfill was identified for acquisition. This property, owned by Birchcrest, Inc. which is an affiliated company of Kinsley Landfill, Inc., is located within a redevelopment area and is the subject of a settlement agreement between the owner and the Township that permits various types of development on the tract for the next 20 years, but not municipal parks and open space. Consequently, this property has been removed from the list for potential acquisition at this time. In a similar fashion, the Rizzuto property has been removed from the open space list as the existing neighborhoods are served by the Lake Tract Playground and the large open lawn area of Gateway High School in Woodbury Heights serves as a location for passive recreation.

Municipal parks and recreational facilities, Township-owned open space, public or community recreation sites, and potential open space sites are depicted on the attached Open Space and Recreation Plan at the end of this document.

STREAM CORRIDOR PRESERVATION AND GREENWAYS

Much effort has been expended in preserving stream corridors in New Jersey through environmental regulation. The stream corridor is generally considered to be the flood prone areas containing the 100-year and 500-year flood plains, steep slopes in excess of a 15% slope, freshwater wetlands and their transition buffers that are associated with water course. Stream corridors are a form of “greenway”. Greenways also include linear parks, recreation trails, undeveloped open space connectors, and parkways. Conceptually, greenways can provide open space links between community facilities and the Township’s park system. Depending on their environmental sensitivity, recreational trails may be constructed in greenways (see

following section). In this context, stream corridor preservation is mainly for conservation purposes. The interaction between land and water is usually the most biologically productive surface on the planet – the main reason stream corridors have been targeted by state and federal regulation for preservation.

Deptford has the beginnings of a greenway network along parts of Big Timber Creek, Almonesson Creek, Mantua Creek and Bull Run. Connecting Timber Creek Park northward along the stream on the north side of Cooper Street where the Township owns land would be a good beginning to the creation of a true greenway network along this section of the Creek and would complement the efforts of the Old Pine Farm Land Trust. Conservation land is usually best protected through public ownership, though lesser forms of control may be suitable. It is intended that land would be deed restricted for conservation purposes. Another potential avenue involves the protection of stream corridors through an easement provided voluntarily by the developer during the land subdivision or site plan process (see Conservation Techniques).

RECREATIONAL TRAILS

Development of hiking trails and bicycle paths within greenways is a way of expanding recreational opportunities in the Township and encouraging fitness. Establishing such a system will involve the municipal government and perhaps adjacent municipalities, conservation and recreation organizations, and landowners. For example, Wenonah Borough is seeking a means of connecting their nature trails with the Tall Pines Preserve and the proposed Gloucester County multi-use trail system. A successful program will require close cooperation among these groups towards the goal of producing recreational trails. In the planning process, connecting existing open space parcels should be the main objective in their creation. Secondly, Deptford has a large number of neighborhoods that are physically disconnected from each other, usually because of stream corridors that prevented connecting streets. As land or easements are acquired, linear trails parallel to a stream could be created that instituted endpoints, or trailheads, in logical locations, such as a major street, park, or community facility.

Recreational trails can be designed to link neighborhoods through the stream corridor and where feasible interconnect with trails traveling alongside the stream itself. Recreational trails would interconnect with bicycle routes along streets to provide for a continuous recreational experience (see Circulation Element).

CONSERVATION TECHNIQUES

There are a number of methods of preserving open space apart from direct purchase by government or by a private nonprofit conservation organization. Purchasing large tracts of land in fee simple is expensive and other avenues should be explored in order to fulfill the Township's open space goals.

Techniques discussed here to conserve land include cluster development, purchase or donation of development rights, conservation easements, and site design.

Cluster Development

Deptford has had a mixed level of success with clustering ordinances. In some instances, clustering preserved portions of stream corridors, but in others the Township ended up with open space that was merely the left over pieces of land after the subdivision process. Clustering is a form of development that concentrates buildings on a smaller portion of a site while preserving the remainder in open space. Properly structured in the zoning ordinance, clustering can be beneficial in preserving stream corridors as greenways. Additionally, if upland is also obtained at the same time, clustering can allow for a recreational trail design that sits above the flood plain. In the Land Use Plan Element, creating a clustering ordinance for zoning districts with a density of two acres or less is recommended.

A zoning technique called mandatory clustering, which has been upheld in a number of municipalities in the state, could also be employed by Deptford. More typically, clustering is an option that may be exercised by an applicant, but in mandatory clustering, the municipality specifies precisely where development must be clustered. The clustering is typically linked to meeting farmland preservation or environmental goals and in Deptford's case, the Township has goals to preserve its stream corridors, freshwater wetlands, and important forested areas (see Conservation Element).

Purchase or Donation of Development Rights

Under the "bundle of rights" theory of property ownership, development rights are an additional right inherent in a property along with the better known air, water, and mineral rights. Development rights may be separated from the property and sold or donated to governmental agencies or conservation organizations. The sale of development rights requires the landowner to pay federal capital gains taxes which may be offset depending on the individual landowner's tax situation. The donation of these rights, however, can be treated as a charitable contribution and provide the donor with a tax deduction. The sale of development rights also reduces the property assessment for tax purposes. Since development rights are less than fee simple ownership, their cost is substantially less.

Conservation Easements

The dedication of easements is a technique sometimes used to preserve wetlands and other environmentally sensitive areas. While retaining ownership in private hands, conservation easements effectively protect lands of ecological importance even should there be changes in laws and regulations. Donation of an easement and donation of development rights have similar tax advantages. Donations may include other general benefits, such as public access. Private nonprofit conservation organizations in the state are substantially involved in

identifying prospective properties and working with interested landowners in securing conservation easements.

Site Design

Site design – the layout of buildings, circulation, and utilities – is the single largest factor in the preservation of environmentally sensitive lands. To achieve the best results, design should be guided by a development suitability map that shows the environmental constraints of the land. From this starting point, a design sensitive to the preservation of natural and environmentally sensitive features may be produced.

FACILITY NEEDS

The Recreation Advisory Committee and the Recreation Department in 2007 identified the need for an additional indoor recreational facility for multiple purposes and programs. The new recreational complex on Montague Lane is an excellent facility, but was designed primarily for basketball and wrestling. The senior center on Tanyard Road is only geared towards the older segment of the population. An indoor center that was also set up for leisure time activities, as well as active recreation, would fill a need within the Township. If the Township Council decides to move ahead with this recommendation, one suitable location would be at the Deptford Soccer Complex. Adequate land should be available and it is geographically separated from the existing center in the northeast corner of the municipality to serve the southern portion of the municipality.

The Gloucester County Institute of Technology, located in the south end of Deptford on Tanyard Road, has an aquatics and fitness center that is also open to local residents for a fee, which is generally lower than for-profit fitness centers. This center already aids the community in that it is used by the high school swim team for practice and meets. While this facility is centered around athletics, both the GCIT and Rowan College at Gloucester County (*formerly* Gloucester County College), located in the same superblock, present the possibility for addressing local residents' needs for recreation and leisure time activities in a joint county government/county school district/municipal partnership. Promotion of a shared use facility would lower the cost for the municipality while taking advantage of its physical proximity to Deptford residents and could alleviate the identified need for an additional indoor recreational center.

FUNDING FOR OPEN SPACE ACQUISITION

Purchasing the acreage necessary to establish additional parks and other open space represents a significant financial cost to the Township. Costs may be reduced through donation of land or funds for open space and utilizing existing land owned by the municipality or other governmental entities not already earmarked for open space. The traditional method

of funding acquisitions is through the State Green Acres Program, which provides low cost loans (typically 2% interest per annum).

The Green Acres Program has promoted the Planning Incentive Grant Program that eases the acquisition process when the Township has adopted a document, such as this element, that sets out goals and priorities for open space. However, it is only available when municipalities have passed their own local open space tax. Deptford officials had previously sought voter authorization for a dedicated open space tax; however, it was not approved. After voter approval in 1993, Gloucester County established an open space and farmland preservation levy at a rate of a penny per \$100 of total county equalized real property value. Because of this successful initiative, County voters also approved two increases to a total of four cents per \$100 today.

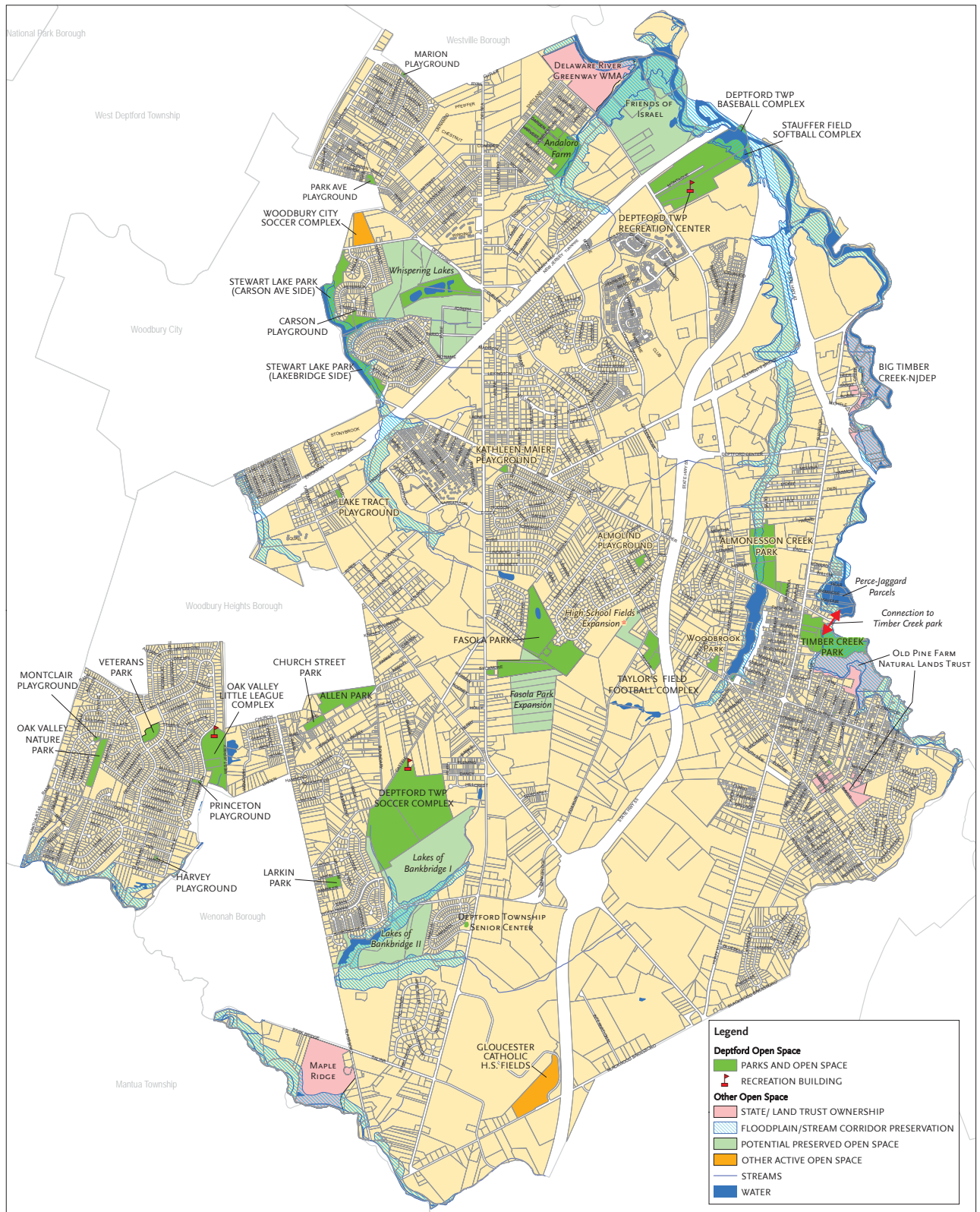
Deptford's interest has been in open space acquisition, rather than farmland preservation, as discussed in the introduction. The County Land Preservation Office operates two programs, one where the County is the lead agency and the other where the municipality pursues acquisition. In both instances, the County enters into a cost sharing agreement with the municipality. Where the County is the lead agency, the NJDEP Green Acres Program typically pays 50%; the County pays 25% with the municipality paying 25% of the acquisition. The Tall Pines State Preserve acquisition included Gloucester County participation.

RECOMMENDATIONS FOR OPEN SPACE AND RECREATION

The following recommendations are made to fulfill the goals and objectives for open space in Deptford:

- 1) Raise the total public and private open space in Deptford to 12.1% of its total land area.
- 2) Acquire and develop a community-wide park around the recently purchased lakes in Whispering Lakes.
- 3) Be cognizant of additional opportunities for acquisition or conservation easements as they arise over time in addition to the list in Table V-5.
- 4) Implement the recommendations of the Fasola Park Master Plan.
- 5) Seek to share the costs of open space acquisition through funding from Gloucester County and the Green Acres Program.
- 6) Survey users to gain a profile of the people using the park when designing new facilities. Use this survey to project existing needs and trends for future programs and facilities. Meet the demand for recreation in the future through adequate budgeting for capital improvements and maintenance of facilities and the imposition of fees where appropriate.

- 7) Use the land development process and capital improvements to establish both greenways and recreational trails in concert with the Conservation Plan and the Circulation Plan.
- 8) Preserve environmentally sensitive land in the development of active recreation sites.
- 9) Explore joint facility needs with the Gloucester County Institute of Technology and Rowan College at Gloucester County where appropriate.



Clarke Caton Hintz ● ● ■
 Architecture
 Planning
 Landscape Architecture

Open Space & Recreation Plan

LOCATION:
 Deptford Township, Gloucester County, NJ

DATE:
 January 11, 2017

COMMUNITY FACILITIES ELEMENT

INTRODUCTION

The Community Facilities Element examines the public buildings and other structures used by local government and other institutions of society that provide for public, social or civic services. These facilities include schools, medical services, fire safety, policing and emergency services, libraries, community and senior centers, and municipal buildings. In addition, certain institutional uses are also included that provide the basis for community or religious life in the Township.

The Community Facilities Element has much in common with the Open Space and Recreation Plan Element. Both elements primarily concern governmental facilities and parks and recreation buildings are also a type of community facility. The Community Facility Element is also related to the Land Use Plan Element where new or revamped facilities are incorporated into the future land use plan for development in the municipality.

This element examines the adequacy of community facilities for Deptford Township, emphasizing those owned by the municipal government. Determining adequacy depends on the goals and objectives of the municipality, its demographic characteristics, and the expectations of residents and workers for the delivery of services. For example, a rise in the elderly population might require an emphasis on senior services and facilities to meet these needs. A projected school student increase might necessitate expanded educational and recreational facilities. From this analysis, future capital expenditures can be planned in a rational manner based on demographic factors and the level of services that is able to be provided by the municipality.

PUBLIC EDUCATIONAL FACILITIES

The public school system represents one of the largest investments in public facilities required by a community. One of the key factors in a prosperous future for Deptford Township is the community's ability to provide a sound, quality educational program in adequate facilities. A strong school system promotes residential property values because it increases demand for housing for families and households with children.

Deptford Township School District operates nine public schools and serves about 4,400 students, of which approximately 82 are sent to schools or out-of-district placements in specialized facilities outside of the district. The following is a description of each of the schools. School enrollments are from the 2014-2015 school year.

CENTRAL EARLY CHILDHOOD CENTER – Opening in 2003, the school is a pre-kindergarten through second grade facility located on Delsea Drive next to the municipal building. It is the larger of two early childhood centers in the district, serving approximately 649 students.

PINE ACRES EARLY CHILDHOOD CENTER – Pine Acres, located on Purdue Avenue in the Pine Acres section of Deptford, serves approximately 286 students in pre-kindergarten, kindergarten, first and second grades. The school also features a class specifically addressing learning disabilities. While originally constructed in 1964 as an elementary school, it was renovated and expanded in 2003 to meet the need for new services necessitated with its redesignation as an early childhood center.

GOOD INTENT ELEMENTARY – Originally constructed in 1960, the school first expanded in 1967 and most recently in 1996. The school is responsible for educational programs for students in grades two through six, and is one of three such schools in the system (the others being the Lake Tract and Oak Valley Elementary Schools). The facility also serves as the district's specialized school offering educational support for elementary students whose primary language is not English. The school is located on Good Intent Road and currently serves approximately 357 students. The rear of the school yard backs up to the athletic facilities of the high school.

LAKE TRACT ELEMENTARY – Located on Iszard Road, the school serves grades two through six. Over 500 students attend Lake Tract. The building was originally built in 1964 and last expanded its facilities in 1973.

OAK VALLEY ELEMENTARY – Established in 1955, the school is located on College Boulevard and educates students in grades two through six. The school currently enrolls approximately 421 students.

SHADY LANE EARLY CHILDHOOD CENTER & ELEMENTARY – Located on Peach Street, the school operates as both an early childhood center and an elementary school, hosting pre-kindergarten through six grade classrooms and serves approximately 415 students. The structure was originally completed in 1957, first expanded in 1973 and again in 2003, when it opened as an early childhood center.

MONONGAHELA MIDDLE SCHOOL –the school serves over 600 students in seventh and eighth grades and is located on Bankbridge Road and its intersection with Tanyard Road. The facility was first built in 1964, and expanded in 1967 and 2001. In 2003, the building underwent a third renovation, adding an art suite, upgraded music facilities, and barrier-free accessibility improvements. The middle school is located in a superblock that also includes the Bankbridge Regional School operated by the Gloucester County Special Services School District and the Gloucester County Institute of Technology.

DEPTFORD HIGH SCHOOL – Located on Fox Run Road, the high school has approximately 1,050 students. While the building was originally constructed in 1959, the high school underwent an \$8.8 million dollar building and renovation project in 2003, which included the conversion of classrooms, an expansion of the cafeteria, upgraded music and athletic facilities, and the addition of a new gymnasium.

NEW SHARON – The school is devoted exclusively to special education students ranging in ages from 8 to 21 years old. The school is located on Delsea Drive and serves approximately 16 students. The building first opened in 1924 as a one-room schoolhouse, and has subsequently expanded to a two story building with four classrooms.

The Deptford Township school system has only undergone a slight increase in enrollment, rising 2.6% since 2006 most of which has been accounted for only in the last year. Over the prior eight years, the median enrollment was 4,352 pupils but by including the enrollment in the 2014-2015 school it rises to a median of 4,358 students. It is not yet clear if the enrollment is an anomaly or if it is the start of a trend toward higher enrollment. See discussion following the table. In Table V-1, Deptford School Enrollment Trends, 2006-2015, the change in school enrollment is documented.

Table V-1. Deptford School Official Enrollment Trends, 2006 – 2015

School Year*	Total Enrollment	% Increase
2006 – 2007	4,304	–
2007 – 2008	4,340	0.84%
2008 – 2009	4,393	1.22%
2009 – 2010	4,305	-2.00%
2010 – 2011	4,374	1.60%
2011 – 2012	4,358	-0.36%
2012 – 2013	4,346	-0.28%
2013 – 2014	4,362	0.37%
2014 – 2015**	4,415	1.2%
Total Increase 2006 – 2015	111	2.6%

* As of October 15 of the school year

** As of December 31, 2014, 4,333 students attend class at public schools in the district.

Sources: NJ Dept. of Education, Deptford Board of Education, 2015.

Since the last Master Plan in 2007 and including that year, the Township has issued 419 certificates of occupancy for new residential construction through the end of 2014. This means that for every seven dwellings constructed in Deptford, it has generated one public student. Demographic study indicates that the number of households with children has dropped significantly since the 1950's and 1960's when the baby boom generation was first affecting the need for educational facilities and this has an effect on the expected number of school children from residential development.

The U.S. Census counted 30,561 persons in 11,689 households in Deptford in 2010. Family households were 7,990 of the 11,689 total households, but only 3,253 of those had children under the age of 18 and of the traditional husband and wife family with children, only 2,303

households. The cultural picture of suburbia that includes a married couple with children constitutes less than 20% of the total households in Deptford (19.7%) and in fact is less than the number of households where people live alone (25.3%). Of course, there are other household types that include children under the age of 18, not just married couples, such as single parent families, grandparents raising their grandchildren, other relatives and even non-relatives which total another 1,434 households for a grand total of 3,737. While this constitutes 32% of households in Deptford with children, it is only 510 more households than those with persons 65 or older.

The Deptford Township Board of Education is responsible for the construction and operation of public educational facilities in the municipality. A number of buildings were expanded and renovated in 2003, as noted in the school descriptions. Though the Board of Education is serving nearly 4,400 students with the facilities it currently has enrolled, a number of schools are over capacity and the district as a whole is 15.1% over capacity. The Board of Education is readying a response to school crowding. In Table V-2, Deptford School Capacities, 2015-2016 School Year, a comparison of the design capacity of each school is compared with existing enrollment. Design capacity is determined through formulae developed by the NJ Department of Education that assigns necessary space for the functions carried on in the school district. The functions in turn are the result of the state-mandated and optional educational programs run by the Board of Education.

Table V-2. Deptford School Capacities, 2015 – 2016 School Year.

School	Grades	2015 Enrollment	Design Capacity	Remaining Capacity	Date Built
Central Early Childhood Center	PK – 2	649	510	-139	2003
Pine Acres Early Childhood Center	PK – 2	286	214	-72	1964
Shady Lane EEC & Elementary	PK – 6	415	447	32	1957
Good Intent Elementary	3 – 6	357	365	8	1960
Lake Tract Elementary	3 – 6	507	430	-77	1964
Oak Valley Elementary	3 – 6	421	374	-47	1955
Monongahela Middle School	7 – 8	619	655	36	1964
Deptford High School	9 – 12	1,050	727	-323	1959
New Sharon	N/A	29	42	13	1924
Total		4,415	3,764	-569	

Source: Deptford Township Board of Education, 2015.

The capacity of schools is determined by using formulas provided by the NJ Department of Education that is applied to the number of pupils and the educational programs operated by the school district.

Under the 2014-2015 enrollment levels, the following schools are operating beyond capacity: Central Early Childhood Center, Pine Acres Early Childhood Center, Lake Tract Elementary, Oak Valley Elementary, and Deptford High School. The High School has the largest mismatch between its design capacity and enrollment. Its enrollment is 44.4% higher than its design capacity. Further, though the elementary schools and middle school have additional capacity, their enrollments will climb in the future due to the number of students that are in the early childhood centers today.

Deptford Township's public school facilities were last significantly improved twelve years ago in 2003. Due to rising elementary school enrollments and space requirements for mandated programs such as special education, the District anticipates a need for additional facilities. However, in December 2007 voters rejected two capital improvement bond referendums to renovate eight of its nine schools. Consequently, there have been no major changes to school facilities since 2003.

Since 2014, the School District completed several notable improvements through its operating budget, including a new computer lab at the Deptford High School and electrical upgrades at the Monongahela Middle and Lake Tract Elementary Schools to accommodate air conditioners for students with severe health issues. Demand for health-related air conditioners still exists because every school has such requests. Accommodating this need is complicated by the fact that some schools lack the structural support to install roof top units.

Facility improvements budgeted for the near future include security upgrades at all facilities, paving at Good Intent Elementary, replacing the playground surfaces at the Central and Pine Acres Early Childhood Centers, replacing older sections of the roof at Pine Acres, and replacing the boiler and resolving parking problems at Lake Tract Elementary. The school district is also in the process of completing a strategic plan that addresses future facility, instruction, equipment, and extracurricular needs. Pending the outcome of the strategic plan, the School District does not anticipate the need for additional athletic and recreational amenities such as playing fields at this time.

The siting of new educational facilities is the most crucial aspect of the master plan for the municipality. As presently disclosed by the Board of Education, no new locations will be necessary to meet the current needs of the school district. However, examining the High School property, most of the land is already earmarked for specific uses. A future major expansion of the school to address overcrowding would require displacement of athletic fields or the acquisition of additional land. The High School joins Good Intent Elementary at the rear for a contiguous school property. The High School also adjoins Fasola Park on its western boundary. An 'L'-shaped property adjacent to the high school has been identified as a potential open space acquisition in the Open Space and Recreation Element, but this land could also be designated for potential acquisition by the Board of Education. Known as Block 233, Lot 10, it consists of 9.89 acres. The High School and Good Intent Elementary School, along with athletic fields are on a total of 68.62 acres, so the potential acquisition would add 14.4% more

land area. The property is presently improved with a single family house. The area of most interest is that portion immediately adjacent to the High School which is the most remote from the house, so an acquisition of only a portion of the property may convey sufficient benefit if needed for a High School expansion.

The Circulation Element identifies the need for an east-west connecting road from Fox Run Road west to Mail Avenue where it intersects Tanyard Road. Because of wetlands and stream corridor constraints, this connector would need to utilize the southern portion of the High School's parking lot to gain access to Fox Run Road. The east-west connector is intended to benefit the High School in providing better access to the central western portion of Deptford where east-west roads are in short supply. Additionally, the Circulation Element identifies the need for pedestrian and bicyclist paths to connect the High School and Good Intent Elementary School to the Bexhill Farms neighborhood on its western side and beyond to other interconnected neighborhoods. The implementation of these recommendations will take the active cooperation of the Board of Education.

GLOUCESTER COUNTY BOARD OF EDUCATION

Deptford hosts a number of specialized schools operated by the Gloucester County Board of Education that are located north of the Rowan College at Gloucester County campus between Tanyard Road and Rt. 55, south of Bankbridge and north of Salina Roads. The Gloucester County Institute of Technology (GCIT) is a vocational education facility that combines academic coursework with hands-on training in a multiplicity of fields and trades. The school offers coursework in the following fields of study: transportation technology, construction, culinary arts, cosmetology, law enforcement, fire science, and graphic technologies. In addition to operating as a high school, GCIT offers adult programs for persons seeking to earn their high school diploma after being in the workforce and post-secondary courses to improve and learn new skills. This is known as the Adult Regional High School in GCIT.

The Gloucester County Special Services District operates a number of schools and programs next to GCIT (and Monongahela Middle School). Bankbridge Elementary School was constructed in 2002 for out-of-district students with disabilities and serves pupils from Pre-K to 6th grade where they typically transition to the Bankbridge Regional School. The Bankbridge Regional School's primary purpose is to provide out-of-district services for students with behavioral disabilities in grades 6 through 12 at its north campus and multiply disabled students at its south campus. The south campus is also for grades 6-12. Both campuses offer separate middle school components for grades 6-8. This district also operates the Alternative School (sometimes called the Alternative High School) since it is for students in grades 9-12 at the Bankbridge facility. This school is a non-traditional high school with an emphasis on holistic teaching of students.

PRIVATE AND PAROCHIAL SCHOOLS

Deptford Township is home to four parochial schools which provide Deptford residents with alternative options to the public school system. These are Bethany Baptist Christian School, Delaware Valley Junior Academy, Most Holy Redeemer, and St. John of God.

Founded in 1997, Bethany Baptist Christian School offers academic programs from kindergarten through high school. During the 2014-2015 school year, the facility enrolled 17 students. Bethany Baptist Christian School does not currently have any plans for expansion.

The Delaware Valley Junior Academy, located on Sickel Lane, was established in the 1950's as an educational facility associated with the Seventh Day Adventist Church. The school serves students in kindergarten through eighth grade.

Located on Delsea Drive, Most Holy Redeemer Regional School is a Roman Catholic school that serves kindergarten through eighth grades. Formed from the merger of Holy Trinity at the present site, St. Patrick's in Woodbury and St. Matthew's in National Park, its enrollment is 180 pupils for the 2014-2015 academic year. Though there was an initial surge in enrollment after the schools consolidation, it is now close to the 175 pupils before the merger. The school has no recent or proposed expansions.

St. John of God Special Education Day School on Delsea Drive is a fully accredited day school that provides intensive educational programs for students with disabilities. The school offers traditional academic activities in conjunction with life skills and community-based instruction. The students range in age from 3 to 21.

In addition to these four schools, Gloucester Catholic High School has established an athletic practice field facility on Blackwood-Barnsboro Road at College Drive, directly south of Rowan College at Gloucester County (see below). Gloucester Catholic has also received preliminary site plan approval for a new athletic complex on the south side of Blackwood-Barnsboro Road. The proposed athletic field layout includes three combination soccer/field hockey fields, three football fields, two baseball fields and two softball fields. The site plan includes a lighted stadium that contains one of the football fields as well as a track and locations for field events, such as the high jump. The practice fields on the north side of the county road are part of phase I of the project. Furthermore, the high school has reserved a 27 acre parcel for a new high school in their long range plan for facilities. All of this development is dependent on fundraising and is not expected to be constructed prior to the next reexamination report of the master plan.

HIGHER EDUCATION

Rowan College at Gloucester County (RCGC), formerly Gloucester County College, is located south of the Gloucester County Institute of Technology within the superblock that also contains the Deptford middle school and the Bankbridge schools discussed above. Accredited

by the Middle States Commission on Higher Education, the College offers over 70 certificate and degree programs. The diverse courses of study include nursing and allied health programs, business and technical studies, health, physical education, recreation, arts and sciences, and public safety. RCGC also offers continuing education programs to residents within and outside of the County. The College conveys associate degrees with a normal matriculation of two years.

The 270-acre college campus has several buildings dedicated or to be shortly dedicated to particular areas of learning, including the county Police Academy, Nursing and Allied Health, Health Sciences, Business and Corporate Center and Center for College and Career Readiness. RCGC, like many community colleges, has a strong emphasis on practical career training and as a preparatory school for students transitioning to a traditional four-year college degree program. The community college is connected to the Business and Industry Training Center, which is located in West Deptford. An important economic development tool for Gloucester County, the Business and Industry Training Center serves as a business incubation program. The campus houses the Continuing Education Center, which provides training for various certificate programs.

The college's connection to Rowan University, located in Glassboro, New Jersey, which led to its name change in 2014, allows for students who meet the eligibility requirements to transfer directly to Rowan or to finish a four-year degree at RCGC.

The campus also houses an early childhood education center operated by the Gloucester County Special Services District (Bankbridge Development Center) and will soon host the Adult Center for Transition, both on Salina Road.

In the Fall 2013 semester, RCGC enrolled 6,720 students. While the enrollment decreased slightly between the 2012/2013 and the 2013/2014 academic years, the number of full-time students increased 2.2% while part-time enrollment fell 4.6%. Thus, the College experienced a 1.1% growth in total credit hours, which was bolstered by a 2.6% increase in full-time credits, during this time.²²

To accommodate increased growth from previous years, the College recently constructed an 18,000 square foot addition to Scott Hall, which houses the Division of Science, Technology, Engineering, and Mathematics,²³ and the 24,000 square foot University Center, which contains 13 classrooms.²⁴ Current capital expansion projects include a 6,500 square foot

²² - <http://www.gccnj.edu/RPA/Documents/FA13-Enrollment-Report.pdf>, accessed February 19, 2015

²³ - http://www.nj.com/south-jersey-towns/index.ssf/2013/05/gloucester_county_college_debu.html, accessed February 19, 2015

²⁴ - <http://www.garrisonarch.com/n-gcc%20expansion%20addresses%20need121810.htm>, accessed February 19, 2015

addition to the Law and Justice Education Center²⁵ and a 20,345 square foot addition to the student services building. Among the building's uses will be six classrooms and the Center for College and Career Readiness, which is a college preparation center where local high school students can earn college credits.²⁶

MEDICAL SERVICES

Residents of Deptford Township are located in close proximity to the Inspira Medical Center in Woodbury, which is part of a three hospital network serving Gloucester, Salem, and Cumberland Counties. The Woodbury location is a 305-bed acute care facility that provides diagnostic, therapeutic, and rehabilitative services. The hospital employs over 1,800 full and part-time staff, including a medical staff of approximately 400.²⁷ Recently-added services include lung cancer screening²⁸ and advanced orthopedic treatment and surgery.²⁹

Additionally, residents of Deptford Township have access to the Cooper University Hospital health system, which operates three locations in Gloucester County for outpatient care. The Cooper University Hospital health system offers a full network of services, including prevention, primary and specialist physician services, and cardiovascular, neurological, bone and joint care.³⁰ The three medical complexes are located in Camden (the flagship campus), Thorofare (West Deptford Township), and Woodbury.

The Kennedy Health System also services Gloucester, Camden, and Burlington Counties. Kennedy is an integrated healthcare system that provides a wide range of services ranging from acute-care hospital to outpatient services.³¹ Kennedy has hospital locations in Cherry Hill, Stratford, and Washington Townships.³²

Nemours DuPont Hospital for Children has been granted site plan approval for a health care facility on a 30 acre tract on Almonesson Road for pediatric medical treatment. The 63,500 sf. building provides clinic-based specialty care for children, primary care, and research and medical education, but will not have overnight admissions. The health care facility opened in October 2016.

²⁵ - http://articles.philly.com/2014-06-26/news/50859062_1_frederick-keating-gloucester-county-college-gcc, accessed February 19, 2015

²⁶ - <http://www.nj.com/gloucester-county/index.ssf/2014/05/gloucester-county-college-breaks-ground-on-expansion-to-student-services-building.html>, accessed February 19, 2015

²⁷ - <http://www.inspirahealthnetwork.org/?id=5282&sid=1>, accessed February 17, 2015

²⁸ - http://www.nj.com/south-jersey-towns/index.ssf/2014/10/post_9.html, accessed February 17, 2015

²⁹ - <http://www.njbiz.com/article/20140430/NJBIZ01/140439986/Cooper-Inspira-Partner-to-expand-orthopaedic-care-to-Gloucester-County-residents>, accessed February 17, 2015

³⁰ - http://www.cooperhealth.org/sites/cooper/files/site/pdf/FastFactsJanuary_2015.pdf, accessed February 17, 2015

³¹ - <http://www.kennedyhealth.org/About+Us.htm>, accessed February 17, 2015

³² - <http://www.kennedyhealth.org/about-us/kennedys-facts-and-history.html>, accessed February 17, 2015

PUBLIC SAFETY SERVICES

The Deptford Township Police Department is charged with the responsibility of providing safety and security in the Township. The Department utilizes a multi-faceted approach to policing, which includes a traffic safety unit, a patrol division, a detective division, community policing, and a school resource office program. In partnership with the Gloucester County Prosecutor's Office, the Department has a training program for governmental personnel named Gloucester County on Patrol (GCOP). The program trains existing non-rostered personnel outside of the police force to be alert to suspicious activity and to report it to law enforcement officers.

The Township's Police Chief oversees the Department's personnel, which includes 60 full time sworn police officers and one of whom is a Special Law Enforcement Officer, Class One. The Department has three main divisions, the Patrol Division which includes the Township's K-9 unit, the Detective Division and the Special Services Division, which includes the community outreach programs noted above. In addition to the Chief of Police, the Department is overseen by two Captains and three Lieutenants. The Department is currently hiring six additional officers to prepare for forthcoming retirements. The Deptford Township Police Department currently has 53 vehicles, the majority of which are Dodge Charger patrol cars. The Department plans to order six Ford Explorer SUVs to replace older vehicles in its fleet. The Police Department no longer has a substation at the Deptford Mall. Security at the shopping center now consists of private security patrols outside of the building during peak periods and internally during business hours.

The Department is looking to improve its computer network and services, and while a capital expenditure, does not create a land use impact.

EMERGENCY SERVICES

The Deptford Township Emergency Services Division provides 24 hour service within the Township and assists other municipalities upon request. Emergency Services evolved from an all-volunteer organization into a professionally staffed municipal agency in 1996. In 1997, the EMS Division received licensure and certification from the New Jersey Department of Health. Emergency Services is overseen by the Deptford police chief and operates under the direction of the Director and Deputy Director of Emergency Services, along with four other supervisors. The Division's staff is composed of 7 full-time and 41 part-time employees. The Division enlists three crews during peak hours and two crews at all other times of day.

The Deptford Township Emergency Services Division (ESD) operates out of the municipal building on Cooper Street. The municipality purchased 2506 Good Intent Road in December 2014, which housed the Deptford Ambulance and Rescue Squad, as a location to store ambulances. The Division has seven ambulances to service the Township and to provide mutual aid to surrounding municipalities. The ESD recently purchased three new

ambulances and a wheelchair van. EDS is currently able to meet the demand for its services, which average approximately 5,000 incidents per year. No additional capital expenditures are anticipated in the foreseeable future.

Gloucester County has a county-wide EMS service with 170 employees and 23 ambulances working across 11 stations. Deptford, however, is not among this service's 17 participating municipalities.³³

FIRE SAFETY SERVICES

The Deptford Township Fire Department consists of 143 firefighters made up of 125 volunteer firefighters and 18 career personnel, including the Fire Marshall. The Department currently does not have a department chief. Four firefighting battalions operate in seven fire stations located throughout the Township. Four of the stations are staffed by both professional and volunteer firefighters. The remaining three stations employ volunteers only. The career personnel work between 6 a.m. and 5 p.m., with volunteers manning the stations after 6 p.m. Each battalion is staffed by one volunteer Battalion Chief. Table V-3, Battalion Deployment by Station (following page), lists the location of the Township's fire stations and battalion makeup.

Each member of the Fire Department is certified by the New Jersey Division of Fire Safety (NJDFS) and new recruits are required to attend a NJDFS-certified training program at the Gloucester County Fire Academy located at Rowan College at Gloucester County.

The Board of Fire Commissioners, which was created by Township Council in 1965, governs the Fire Department. The Commission is comprised of five commissioners who are elected to serve staggered three year terms. The Commission is responsible for overseeing the funding for the Township's fire district and for identifying the Department's apparatus needs.

³³- <http://www.gloucestercountynj.gov/depts/e/emeresponse/glocountyems/>, accessed January 20, 2015

Table V-3. Battalion Deployment by Station

Battalion	Station
Battalion 1	Oak Valley Fire Co. No. 1 595 Princeton Blvd.
Battalion 2	Tacoma Fire Co. of Westville Grove 768 Tacoma Blvd.
	Helping Hand Fire Co. 86 Fischer Street
Battalion 3	Union Volunteer Fire Co. No. 1 2401 Good Intent Road
	Almonesson Lake Volunteer Fire Co. No. 1 1700 Almonesson Road
Battalion 4	New Sharon Volunteer Fire Co. No. 1 1830 Delsea Drive
	Community Volunteer Fire Co. No. 1 630 Tanyard Road
Board of Fire Commissioners, 1370 Delsea Drive	

Source: Deptford Township Fire Department, 2015.

Currently, the Fire Department's fleet of apparatus consists of 10 engines, nine cars, two ladder trucks, three marine vehicles, one rehab unit, one foam trailer, one utility truck, one quintuple combination pumper truck (a.k.a. quint, combining both an engine and ladder truck), one rescue truck, and one brush truck.³⁴ The Department has created a capital improvement budget plan for new fire equipment and vehicles, named the Apparatus Replacement Schedule, that has established a timetable for replacement of old equipment through 2025. The plan recommends that the Department purchase one truck per year or two trucks every two years. The Township Council continues to follow this schedule and does not expect that there will be additional equipment needs beyond those listed.

In 2014, the Deptford Township Fire Department responded to 1,153 calls for assistance, which is a 30% decrease since 2010 and a 26% decrease since 2006. The Department also provided assistance in 562 mutual aid calls to nearby municipalities during 2014. At this time, there does not appear to be the need for changes in the number of career staff, capital improvements, or additional stations for fire safety purposes.

Since the last Master Plan, there have been two significant events relating to fire stations. In December 2008, a fire substantially damaged the New Sharon station. When it was uncovered that insurance money allocated for reconstruction was misappropriated by a member of the fire company, local businesses donated funds and materials for the reconstruction. This community effort, other fundraisers and a loan from local institution South Jersey Federal

³⁴- <http://www.deptfordfd.org/apparatus.html>

Credit Union, provided sufficient funding for rebuilding.³⁵ The newly rebuilt fire station opened in January 2013. Secondly, the Jericho Fire Company disbanded and its fire station on Mail Avenue has been closed.

LIBRARY

The Deptford Township Free Public Library, located on Ward Drive, boasts a healthy resource collection, including 75,515 volumes; 130 periodicals; 3,638 videos/DVDs; and 2,462 audio books. The library also has ten public computers with Internet access and one computer reserved for children. Additionally, the facility serves as a community center. The library provides meeting space for community meetings, educational and recreational programs, and information on Township programs and resources. The library recently expanded its media collection and added access to an eBook service.

The publicly-funded library is governed by the Deptford Library Board of Trustees. The facility employs approximately 9 full-time staff members and 2 part-time staff. The library also plans to hire a new reference librarian.

The library currently occupies an 11,253 square foot structure. The building was originally designed as a 5,000 square foot senior center. The library moved into the building in 1970. In 1988, the building was expanded to its current size to accommodate its growing collection. In addition, the children's room expanded in 2006.

Over the next year, the library is planning to create a public technology center with additional computers, Wi-Fi, printing facilities, and eBook access. The computers will be inaugurated with several common software programs such as Microsoft Office and Internet access. To compliment these services, the center hopes to offer technology instruction.

Goals from the library's 2012-2015 Strategic Plan include increasing annual circulation from approximately 265,000 to 300,000 items, reducing the footprint of its physical collection size by 20% (from 2011 levels), and repurposing at least 1,000 square feet of library stacks for the public technology center.³⁶ To that end, the library continues to increase its outreach to existing users and to attract new ones, particularly through social media. No additional capital improvements are anticipated.

MUNICIPAL BUILDING

Located on Cooper Street, the municipal building houses all of the departments of the Township government except for Public Works and the Fire Department. In addition to the municipal building, the site also houses an ambulance building for EMT services.

³⁵ - http://www.nj.com/gloucester-county/index.ssf/2013/01/new_sharon_fire_company_in_dep.html

³⁶ - <http://deptfordpl.delval.njsl.org/wp-content/uploads/2013/04/Deptford-Library-Plan.swf>, accessed February 11, 2015

Approximately 50 administrative staff work in the municipal building along with 60 or so sworn officers in the Police Department (see Public Safety Services). The 30,000 sf. facility's cornerstone was laid in 1979 and the building opened for public use in 1980. Now 37 years old, the building is nearing the time where a significant renovation or replacement will be necessary. The building is energy inefficient, has an inadequate HVAC system, has had significant roof leaks, and its archival storage space in the basement has constant water infiltration which compromises record keeping. Internal circulation from the Police Department to the courtroom requires the use of public spaces. The building lacks modern security systems and was designed well before the digital revolution started. The site itself has inadequate parking at times, most notably on court days, yet since the Early Childhood Center opened next door in 2003, there is no area for expansion. These factors point to a need to undertake a building and site assessment to determine the most practical means of addressing these inadequacies.

MUNICIPAL RECREATION FACILITIES AND SENIOR CENTER

Deptford Township offers a host of recreational amenities, which are discussed in more detail in the Open Space and Recreation Element. Additionally, the Township provides indoor recreational outlets at the Township Recreation Center, which is located on Montague Lane, just off Almonesson Road. The Center includes a basketball gym, wrestling room, an all purpose meeting room and office space, and bathrooms and shower facilities. The municipality recognizes that there is increasing demand for indoor recreational amenities, specifically the need for a health and wellness facility. The Township is also experiencing a growing demand for additional basketball facilities.

Deptford Township also provides recreational programming for its senior population at the Township's Senior Center. Located on Tanyard Road, the Senior Center serves as a gathering place for seniors and is equipped with a pool table, piano, TV area, kitchen facilities, and a bocce ball court. Programming at the Center includes Tai Chi, a card club, and line dancing among others.

The municipal senior center is supplemented by two private facilities, one located in Lakes of Bankbridge and the other in Heritage Village. Both of these centers are owned by their respective homeowners' associations and are in age-restricted neighborhoods.

The Locust Grove homeowners' association also operates a community center for its residents, along with outdoor recreational facilities including an extensive walking path system.

Despite these public and private efforts, demographic trends in Deptford herald the need for additional community center space. Fasola Park has been identified as a potential location for an outdoor amphitheater because of its central location within the municipality. Indoor recreational facilities should generally be located in community-sized parks as part of a complex of recreational spaces.

RELIGIOUS AND FRATERNAL ORGANIZATIONS

Adding to the social fabric of Deptford is its strong network of religious and fraternal organizations. Table V-4, Religious Organizations, lists the religious organizations with buildings in Deptford. Table V-5, Fraternal Organizations, indicates the fraternal organizations established in the municipality.

Table V-4. Religious Organizations.

Religious Organizations	Address
Almonesson United Methodist Church	1300 Hurffville Road
Bethany Baptist Church and School	2702 Good Intent Road
Bethel Community Church	439 Oak Avenue
Blessed Hope Community Church	115 Andaloro Way
Calvary Bible Church	1428 Delsea Drive
Campbell AME Church	220 Park Avenue
Delaware Valley Junior Academy (School)	240 Sickel Avenue
First Baptist Church	981 Mail Avenue
Friends of Israel Gospel Ministry	1129 Almonesson Road
Gospel Center Calvary Bible Church	1416 Delsea Drive
Gospel Church of God in Christ	940 Boundry Road
Infant Jesus Parish	2901 Good Intent Road
John 3:16 Assembly of God, Deptford	1114 Tanyard Road
Mountain of Fire and Miracle Ministries	1450 Clements Bridge Road
Holy Trinity Regional School	1215 Delsea Drive
Mt. Zion Wesley United Methodist Church	1470 Glassboro Road
New Life Bible Church	1007 Jericho Lane
New Sharon Methodist Church	1831 Delsea Drive
Laurelwood Seventh-Day Adventist Church	3051 Good Intent Road
St. John of God School	1185 Delsea Drive
Praise Temple Baptist Church	900 Tanyard Road
United Methodist Church	1674 Almonesson Road
Victory Baptist Church	777 Maple Road
Victory in Christ Christian Center	1055 Delsea Drive

Source: Deptford Township Tax Assessment Records.

Table V-5. Fraternal Organizations in Deptford.

Fraternal Organizations	Address
Semper Fi Detached Marine Corp. League	344 Harvey Avenue
Veterans of Foreign Wars, Post 2174	640 Tacoma Boulevard
Deptford ELKS, Lodge No. 2708	733 Highland Avenue

Source: Deptford Township Tax Assessment Records.

SUMMARY AND RECOMMENDATIONS

The Township has employed an incremental approach to the provision of municipal services as the population has grown. This is a fiscally prudent course and provides the services as they are needed. Subsequently, the facilities operated by the municipality, except in a few instances, are sufficient for the needs of residents. Several recommendations, however, are included for future planning efforts by the municipality. These are listed below.

- 1) Work closely with the Deptford Township Board of Education on land uses, transportation and recreation facilities around the Deptford High School to facilitate better access, sufficient land for future high school use and potential shared facilities. Specifically, find an acceptable route for the east-west road connector to Fox Run Road and pedestrian/bicyclist pathways to the Bexhill Farms neighborhood.
- 2) Institute a Township survey of residents about indoor recreational facilities, their use of such facilities, and current and future demand for alternative amenities, such as a health and wellness facility. This might be accomplished through the Township's newsletter or website.
- 3) Decide on the need for an additional community center and determine its best location, if the need is warranted.
- 4) Promote the use of Rowan College at Gloucester County as a resource for future business development activities and incubator space. Work closely with the administration on campus development issues and potential effects on adjacent land uses and roadways. If the bus rapid transit stop proposed for Rt. 55 comes to fruition, seek ways to make it accessible to the campus. Encourage the retention of important woodlands on campus and retain it as an ecological node.

CIRCULATION ELEMENT

INTRODUCTION

Circulation is the ability to travel by motor vehicle, bicycle, and foot in and through Deptford. The Circulation Element examines the transportation network of streets, sidewalks and pathways that provide mobility for commuters, residents, business owners and visitors. Deptford is embedded in a metropolitan area within a regional transportation network that influences travel behavior and land use. While cognizant of this regional network, this document takes a more local view of the transportation system and its influence on the policies of the Land Use Plan Element. While the main focus remains the street network, there is a greater emphasis in this Circulation Element on creating a better and more comprehensive bicycle and pedestrian system compared to prior plans.

DEPTFORD'S REGIONAL PLACEMENT

Deptford Township is located in the heart of the New Jersey sub-area of the Philadelphia Metropolitan region. Deptford is the locus of main through routes from Philadelphia to southern New Jersey shore destinations as well as the northeast corridor highway system. The Township is bisected by every major highway in southern New Jersey with the exception of the Garden State Parkway. Interstate 295 runs along the northern boundary of Deptford. Partial interchanges at Broad Street (Route 45) in next door Woodbury and at Evergreen Avenue (Rt. 551) in Deptford provide access to the northbound lanes of the interstate. Nearby interchanges at N. Delsea Drive (Route 47) in Westville provide additional access to the highway. Route 42, the North-South Freeway, skirts the northeastern portion of the township and the equivalent of a full interchange is provided by ramps at Clements Bridge Road (Rt. 544) and Hurffville Road (Rt. 41) near the Deptford Mall. Route 55, one of the newest limited access highways in the state system, runs north to south through the entire length of the Township providing direct access to Camden and Philadelphia just to the north and to the Millville-Vineland areas and eventually the Cape May County shore points to the south. The New Jersey Turnpike also traverses the northerly half of the Township, but the closest exit, no. 3, is located in Runnemede in Camden County and does not provide any local benefit.

Within the southern New Jersey region, Deptford's convenient location along major commuting routes has created the conditions for its regional concentration of retail centers. With the opening of the Deptford Mall in 1976, significant secondary shopping centers surrounding it have been constructed in two different waves, one in 1985-1991 and the other one from 2002-2007. Commuting traffic creates congestion during the weekdays and this concentration of retail services in Deptford's northeast quadrant has also instigated highly congested conditions during weekends, especially during the end of year holiday shopping season.

High rates of growth, especially in central and southern Gloucester County have led to increasing levels of commuter traffic on Route 55 and on other major north-south arterials like Hurffville Road and Delsea Drive, particularly during peak periods. The popularity of the Jersey Shore, some 30-50 miles to the east, also creates highway congestion during summer months. The County as a whole has lacked east-west routes because of the radial pattern of development that fanned out from Philadelphia to the Atlantic Coast. Periodic attempts to create a better system for east-west mode of travel have floundered either on myopic highway planning in the 1950s (the I-295 kink; no I-295 north to Rt. 42 south ramp) or from determined local opposition (the Rt. 322 freeway). Residential and commercial growth has also made the Township's relative lack of east-west roads more apparent as streets like Cooper Street (Rt. 706) and Clements Bridge Road (Rt. 544) now experience heavy levels of traffic.

LAND USE, TRANSPORTATION AND CONGESTION

In transportation planning, it is a well-established doctrine that how land is used affects the circulation system. Rural areas dominated by agriculture clearly have less traffic than a shopping center. Each land use generates a certain number of vehicle trips. Reports on the amount of traffic that is generated by a particular land use have been assembled into reference manuals used by transportation engineers and planners to predict the level of traffic that a proposed development will generate. Each level of traffic can then be assigned to a road segment or an intersection to determine if improvements are necessary. In this way, lands with traffic intensive uses can be located in a close physical relationship to higher order streets and highways (see Functional Classifications, below, and the Land Use Plan Element). This is evident in Deptford where the retail concentration that characterizes the municipality's non-residential development is clustered around the convergence of highways in its northeast region.

Traffic is not evenly distributed throughout the day but has higher levels of use at certain times. The capacity of the road system to handle the traffic generated is usually examined from a "peak hour" perspective. Congestion occurs when the capacity of an intersection or road segment is reached by the number of vehicles attempting to use it. During the weekday, one hour within the time frame of 7:00 to 9:00 a.m. is usually the morning peak hour and another hour within the 4:00 to 6:00 p.m. is the afternoon peak hour. Traffic in the afternoon on a weekday typically has a longer time when congestion occurs. During the school year, congestion in mid-afternoon starts with school dismissal. Congestion also extends later due to commuters stopping at stores before heading home for the evening. On the weekends, however, the peak hour usually occurs in the 12:00 to 2:00 p.m. time slot. With the extension of store hours on Sundays with the repeal of blue laws, Sundays and Saturdays now have similar travel characteristics.

Capacity constraints in the road system occur primarily at intersections. Traffic signals identify those intersections with the highest levels of traffic. By definition, intersections without traffic signals have lower levels of traffic, since a certain threshold of traffic, called a

warrant, is necessary before state approval can be obtained to install a signal. All of the traffic signals in Deptford are under the jurisdiction of the NJ Department of Transportation or Gloucester County except for two on Deptford Center Road. Accident information is one means of identifying capacity constraints and design flaws and this is discussed in the following section.

ACCIDENT DATA AND IDENTIFIED CONGESTION POINTS

Information about accidents on the street network is systematically tallied and analyzed both for governmental purposes and insurers. Accident data can also be used to identify road segments that have geometric problems. These might include poor sight distance, sharp curves, or inadequate shoulders. Signal timing may be an issue where inadequate time is given for cross traffic or left hand turns, resulting in ill-judged attempts to traverse an intersection that causes an accident.

The Deptford Police Department along with the New Jersey Department of Transportation and the Rutgers Center for Advanced Infrastructure and Transportation compiles crash and accident data for all roads and intersections in the Township. This information is important for determining where engineering or other improvements are necessary to improve safety and traffic flow. Crash statistics compiled for the last 5 years (2010-2014) reveal that over 4,300 crashes occurred on Deptford roadways as well as on private property like the Deptford Mall. Table VII-1, Highest Crash Intersections in Deptford, 2010- 2014 (Inclusive) on the following page, presents the 10 most dangerous intersections in Township based on the number of crashes over the last 5 years:

Table VII-1. Highest Crash Intersection in Deptford, 2010 – 2014 (Inclusive).

Rank	Road Name	Cross Street	Number of Crashes
1	Clements Bridge Road (Rt. 544)	Hurffville Road (Rt. 41)	70
2	Hurffville Road (Rt. 41)	Deptford Center Road	62
3	Clements Bridge Road (Rt. 544)	Almonesson Road (Rt. 621)	55
4	Cooper Street (Rt. 534)	Delsea Drive (Rt. 47)	46
5	Hurffville Road (Rt. 41)	Delsea Drive (Rt. 47)	43
6	Hurffville Road (Rt. 41)	County House Road (Rt. 621)	31
7	Delsea Drive (Rt. 47)	Bankbridge Road (Rt. 647)	31
8	Hurffville Road (Rt. 41)	Good Intent Road (Rt. 534)	31
9	Delsea Drive (Rt. 47)	Turkey Hill Road (Rt. 646)	27
10	Almonesson Road (Rt. 621)	Deptford Center Road	23
Total of Top Ten Crash Locations			419

Source: Rutgers Plan4Safety Crash Database

The majority of the intersections on the top ten list, and the top five on that list, are in the vicinity of the Deptford Mall and near the Township's retail concentrations along Cooper Street, Almonesson Road, and Clements Bridge Road. As these roads are the most highly traveled in the Township, it is not surprising that they would experience the most accidents. The additional intersections on this list involve other major roads in the Township. Further analysis is recommended, particularly at the most dangerous intersections, to see if safety improvements, ranging from retiming signals to improving road geometries, could reduce crash rates and create safer conditions. Considering that at least one street in each of the above intersections is maintained by the State or Gloucester County, any safety improvements must be in coordination with the relevant authority. Ironically, the intersection with the most crashes, Clements Bridge Road and Hurffville Road, was redesigned and reconstructed as part of NJDOT's reconfiguration of ramps to and from Rt. 42 in 2005-2006.

Of all of the recorded crashes over the past five years, only 60 involved pedestrians and 23 involved cyclists. Many of these crashes occurred on the roads listed above that contain the Township's most dangerous intersections, especially Clements Bridge Road (particularly at Locust Grove Drive), Delsea Drive, and also the commercial area of Cooper Street. Almonesson Road south of the Deptford Mall, Delsea Drive at Cooper Street, the parking lot of the Cooper Street Wal-Mart, Carteret Avenue at Florence Avenue, and Fox Run Road near Deptford High School also saw concentrations of pedestrian crashes. The pedestrian crash clusters near Deptford High School and on Carteret Avenue near the Shady Lane Elementary School are particularly concerning (although one crash on Carteret Avenue involved an adult) because of the concentration of children on the roads, sidewalks, and parking lots near the schools. Consequently, these two areas may be considered priorities for traffic enforcement and traffic calming initiatives.

The concentration of bike crashes along the Township's commercial corridors, and the fact that nearly three-quarters of crashes happened on a weekday, may indicate that the cyclists involved may not have access to a vehicle and were commuting to work. There were also three bicycle crashes in the vicinity of Clements Bridge Road and Locust Grove Boulevard as well as two crashes on the approaches to the intersection of Delsea Drive and Cooper Street.

Of the all crashes in Deptford, there were 13 fatal accidents in the past five years, including two involving pedestrians and one a person riding a bike. The table below provides detail on each fatality.

Table VII-2. Fatal Vehicle Crashes in Deptford, 2010 -2014.

Date	Road Name	Crash Type	Alcohol Involved	Total Killed
9/14/2010	Delsea Dr. (Rt. 47) North	Same Direction - Rear End	Yes	1 Cyclist
10/12/2010	Ogden Road	Right Angle	No	1
10/19/2010	Tanyard Road (Rt. 663) South	Fixed Object	Yes	1
3/19/2011	Hurffville Rd. (Rt. 41)	Other	Yes	1
5/15/2011	Delsea Dr. (Rt. 47)	Pedestrian	No	1 Pedestrian
6/11/2011	Almonesson Road (Rt. 621)	Other	No	1
6/12/2012	Route 42 North	Fixed Object	No	1
12/22/2012	Route 55 North	Fixed Object	No	1
11/22/2013	Route 55 South	Fixed Object	No	1
4/24/2014	Route 55 North	Fixed Object	No	1
7/2/2014	Route 55 South	Fixed Object	No	1
7/30/2014	Delsea Dr. (Rt. 47)	Left Turn / U Turn	No	1
9/7/2014	Mantua Ave. (Rt. 45) North	Pedestrian	No	1 Pedestrian

Source: Rutgers Plan4Safety Crash Database

Half of the fatalities occurred on two of the freeways that run through the Township (Routes 42 and 55) while the rest occurred on intramunicipal streets. While Ogden Road is the only municipally-owned road on this list with a fatality, it directly connects County Routes 553 and 648. Police reports cited driver inattention as the most common cause of the crashes, including the 2014 pedestrian crash.

Passenger vehicle crashes become more lethal as speeds increase. While speeding was not directly cited in these crashes, the posted speed limit was at least 40 mph in each case (except Ogden Road), including on the two streets where people walking were struck and killed. Pedestrians have an 85% chance of death when hit at 40 mph.³⁷ The policy implications that arise from this data indicate a need for sidewalks or multi-use paths along arterial roads, which are generally controlled by the County in Deptford, and crosswalks in appropriate locations. This supports the value of using the Complete Streets system for new construction (see later section).

³⁷ <https://www.ohsu.edu/xd/outreach/programs/thinkfirst/upload/June-Safety-Spread.pdf>

ROAD JURISDICTION

The jurisdiction of the public road network is divided among state, county, and local governments. This section of the Element describes the road system within Deptford. Private roads such as those serving apartment buildings, townhouse developments and office complexes or those that create shared access among several uses may serve many of the same functions as the public street network but will not be dealt with in this Element. Table VII-3 below enumerates the total number of miles under each level of government.

Table VII-3. Road Miles by Governmental Jurisdiction in Deptford.

<u>Jurisdiction</u>	<u>Number of Miles</u>
U.S. & New Jersey	22.27
Gloucester County	28.82
Deptford Township	<u>81.64</u>
Total	132.73

Sources: NJDOT, 1989 Deptford Master Plan, and CCH calculations.

Table VII-4 lists the roads under state and county jurisdiction in Deptford. These include the following:

Table VII-4. Federal, State and County Roads in Deptford.

NATIONAL HIGHWAY SYSTEM ROADS:

Interstate 295
 New Jersey Turnpike
 Route 42 (North-South Freeway)
 Route 55

NEW JERSEY STATE ROADS:

Route 41 (Hurffville Road)
 Route 42 (North-South Freeway)
 Route 45 (Mantua Pike)
 Route 47 (Delsea Drive)
 Route 55

GLOUCESTER COUNTY ROADS:

Good Intent Road/Cooper Street (County Route 534)
Clements Bridge Road (County Route 544)
Woodbury-Glassboro Road (County Route 553)
Blackwood-Barnsboro Road (County Route 603)
County House Road/Almonesson Road (County Route 621)
Tacoma Boulevard/Andaloro Road (County Road 644)
Caulfield Avenue (County Route 645)
Deptford Avenue/Turkey Hill Road (County Route 646)
Fox Run Road/Bankbridge Road (County Route 647)
Tanyard Road (County Route 663)
Cooper Street from Good Intent Road to
 Camden County line (County Route 706)
College Drive (County Route 712)
Salina Road (County Route 715)

Sources: NJDOT, Gloucester County Highway Department

Cattell Road (formerly County Route 665) is now under the jurisdiction of the Township.

Road jurisdiction roughly reflects the functional relationship between governments in the use of streets and highways. Highways of national importance are federally designated and the majority of funding is provided by the federal government. Streets providing access to residential lots are provided by municipalities. A hierarchy has been created of functional categories that range from roads of national importance to those at the local level. A description of these functional categories is in the following section.

FUNCTIONAL CLASSIFICATION SYSTEMS

Streets and roads are classified in three different ways depending on the agency and purpose of the system. However, all systems are based on the principal of balancing mobility with access. In addition, they are all organized around a sliding scale; the higher the order of roadway, the greater emphasis is placed on mobility, the lower the order of roadway, the greater emphasis is placed on access to abutting land. The first system, utilized by the Master Plan, creates a system of roads labeled as Principal Arterial, Major Arterial, Minor Arterial, Major Collector, Minor Collector, and Local Road as these roads function within the municipality. The road designations are shown on the Circulation Plan at the end of this document. A second classification of roads is based on the Federal Highway Administration's (FHWA) definitions.³⁸ This classification is highway-oriented, covering the Interstate and regional highway network. The character of the traffic using this system determines its

³⁸ Under the Municipal Land Use Law, the Circulation Element is required to consider the FHWA classification scheme.

classification. The FHWA classification is extended in this element to cover Gloucester County's classification of their road network. The third road classification system categorizes residential streets under the state's Residential Site Improvement Standards (RSIS). The RSIS establishes a hierarchy of roads for access to residential property. RSIS roads form the large majority of the streets under Deptford's jurisdiction.

CIRCULATION PLAN CLASSIFICATION

For the purposes of the Master Plan, all roadways in the Township have been divided into one of six categories in a scheme similar to that of the FHWA, but in a more precise manner better suited to a Township-level analysis.

Circulation Plan Principal Arterials

Principal arterials, as their name suggests, act as the primary thoroughfares to move large volumes of traffic on a regional scale through the Township. Generally, principal arterials are designed for and carry a volume of traffic that exceeds 25,000 vehicles per day on an annualized basis (AADT). Also included is Rt. 45 which has a lower volume of existing traffic but which is designed with a capacity able to handle more than 25,000 vehicles AADT. Rt. 45 carries 18-19,000 vehicles per day. Table VII-5 lists the principal arterials in the Township.

Circulation Plan-Principal Arterials

Principal arterials, as their name suggests, act as the primary thoroughfares to move large volumes of traffic on a regional scale through the Township. Generally, principal arterials are designed for and carry a volume of traffic that exceeds 25,000 vehicles per day on an annualized basis (AADT). Also included is Rt. 45 which has a lower volume of existing traffic but which is designed with a capacity able to handle more than 25,000 vehicles AADT. Rt. 45 carries 18-19,000 vehicles per day. Table VII-5 lists the principal arterials in the Township.

Table VII-5. Principal Arterial Roads in Deptford Township.

<u>Name</u>	<u>Segment</u>	<u>No. of Lanes</u>	<u>Jurisdiction</u>
Interstate 295	Entire Length	6	State
NJ Turnpike	Entire Length	4	State
Route 42	Entire Length	6-8	State
Route 55	Entire Length	4	State
Route 45	Entire Length	4	State
Clements Bridge Road	Locust Grove Blvd. to County Line	2-4	County

Circulation Plan-Major Arterials

Major Arterials carry heavier levels of traffic, typically in excess of 10,000 but less than 25,000 vehicles AADT, and constitute the main routes of travel for commuters and shoppers through the Township. They may have more than two lanes of traffic or have the capability to be expanded to that size. Examples include Cooper Street, Hurffville Road, and Delsea Drive. Table VII-6 lists the major arterials in the Township.

Table VII-6. Major Arterial Roads in Deptford Township.

<u>Name</u>	<u>Segment</u>	<u>No. of Lanes</u>	<u>Jurisdiction</u>
Woodbury-Glassboro Rd.	Entire Length	2	County
Delsea Dr.	Entire Length	2	State
Hurffville Rd.	Entire Length	2-4	State
Almonesson Rd.	Caulfield Rd. to Deptford Center Rd.	4-5	County
Cooper St.	Entire Length	2-4	County
Clements Bridge Rd.	Cooper St. to Locust Grove Blvd.	2-4	County
Deptford Center Rd.	Entire Length	4	Municipal
Blackwood-Barnsboro Rd.	Entire Length	2	County

Circulation Plan Minor Arterials

Minor arterials carry lesser levels of traffic, typically greater than 3,000 ADT but less than 10,000 ADT and are usually two lanes. They provide a connection between major arterials and residential or non-residential collector streets, as well as providing intra-municipal travel paths. Minor arterials are not intended to be enlarged to handle major arterial levels of traffic, though intersection improvements are warranted in certain circumstances to add stacking lanes for left hand turns. Most minor arterial roadways in the Township are under the jurisdiction of Gloucester County. Table VII-7 lists the streets designated as minor arterials in Deptford Township.

Table VII-7. Minor Arterial Roads in Deptford Township.

<u>Name</u>	<u>Segment</u>	<u>No. of Lanes</u>	<u>Jurisdiction</u>
Broadway	Entire Length	2	County
N. Evergreen Avenue	Entire Length	2	County
Ogden Road	Entire Length	2	Municipal
Tacoma Blvd.	Woodbury City to Deptford Ave.	2	County
Deptford Ave.	Tacoma Blvd. to Delsea Dr.	2	County
Almonesson Rd.	Westville Border to NJ Turnpike	2	County
Almonesson Rd.	South of Deptford Center Rd.	2-4	County

Good Intent Rd.	Entire Length	2	County
Tanyard Rd.	Entire Length	2	County
Cattell Rd.	Entire Length	2	Municipal
Bankbridge Rd.	Entire Length	2	County
County House Rd.	Entire Length	2	County
Salina Rd.	Entire Length	2	Municipal

Circulation Plan- Major/Minor Collectors

Collector streets play the critical role of connecting local, residential streets with arterial highways as well as other residential streets. Collectors are in the middle of the mobility-access scale and thus provide both land access and traffic circulation in residential, commercial, and industrial areas. Unlike arterials, they cross residential neighborhoods and distribute and channel trips between those neighborhoods and larger roads. Most of the larger collector roads in the Township are maintained by the County while the smaller collector roads tend to be under the Township's jurisdiction. Tables VII-8 and VII-9 below, list the major and minor collector roads in the Township.

Table VII-8. Major Collector Roads in Deptford Township.

<u>Name</u>	<u>Segment</u>	<u>No. of Lanes</u>	<u>Jurisdiction</u>
Tacoma Blvd.	Deptford Ave. to Delsea Dr.	2	County
Deptford Ave.	Tacoma Blvd. to Woodbury City	2	County
Turkey Hill Road	Entire Length	2	County
Caulfield Avenue	Entire Length	2	County & Municipal
Locust Grove Blvd.	Entire Length	2	Municipal
Highland Ave	Entire Length	2	Municipal
Fox Run Road	Entire Length	2	County

Table VII-9. Minor Collector Roads in Deptford Township.

<u>Name</u>	<u>Segment</u>	<u>No. of Lanes</u>	<u>Jurisdiction</u>
Andaloro Way	Entire Length	2	County
Village Blvd.	Entire Length	2	Municipal
Clover Dr.	Entire Length	2	Municipal
Narraticon Pkwy. / Merrimac Way	Entire Length	2	Municipal
Mail Avenue	Entire Length	2	Municipal
Boundry Road	Entire Length	2	Municipal
College Blvd.	Entire Length	2	Municipal
Princeton Blvd.	Entire Length	2	Municipal
Bark Bridge Rd.	Entire Length	2	Municipal

First Avenue	Entire Length	2	Municipal
Pennsylvania Ave./ Chestnut Avenue	Entire Length	2	Municipal
International Avenue	Entire Length	2	Municipal

These form the roadway classification scheme found on the Circulation Plan at the end of this document. Following are two other classification schemes, the Federal Highway Administration and the Residential Site Improvement Standards and their relationship to the master plan.

FHWA CLASSIFICATION SYSTEM

The Federal Highway Administration classifies roadways based on their functional characteristics and their location within either a rural or urban setting. Accordingly, roadways in areas defined as “urban”, like Deptford, fall into one of four categories -Principal Arterial, Urban Minor Arterial, Urban Collector, or Local. The FHWA categories have important implications for the distribution of federal highway dollars, and are utilized by the New Jersey Department of Transportation (NJDOT) to determine highway design and funding priority. However, they have little practical application when focusing on the more local system described in the preceding section. This system is important, nonetheless, when recommendations and action items are identified that involve FHWA approval and funding. The design and construction of the Deptford Center Road extension (see below) is the one project proposed that involves NJDOT and the FHWA because of the changes it requires at the Rt. 55 interchange. The following paragraphs discuss how the roadway system in Deptford is categorized based on the federal classification system.

FHWA-Principal Arterials

Principal Arterials are intended to handle large volumes of regional and through traffic. Principal Arterials include Interstate 295 and the New Jersey Turnpike. In addition, the FHWA also considers Rt. 55, Rt. 42, Rt. 45 (Mantua Pike), Clements Bridge Road (County 544) and Cooper Street (County 534 from Clements Bridge to the Woodbury line) to be Principal Arterials. Highways of this type are intended for large volumes of traffic in urban areas, such as Deptford. The fundamental characteristic of the principal arterial’s function is to carry through traffic. All of the highways noted above are designated as Urban Principal Arterials. Daily traffic counts indicate the high usage of these roads. For example, Rt. 55 carries about 72,200 vehicles per day in Deptford (2012 count) and Clements Bridge Road carries approximately 28,400 vehicles per day (2010 count) in the vicinity of its interchange with Route 42. Principal Arterials are part of the National Highway System which is an extensive network of primary roads of national importance, totaling about 164,000 miles of which 2,100 miles are in New Jersey.

FHWA-Urban Minor Arterials

Minor Arterials are intended to move traffic from municipality to municipality within a region and to provide connections between Principal Arterials and lower orders of streets. According to the FHWA, urban minor arterial streets provide intra-community travel, do not cut through neighborhoods, and are generally spaced no more than 1 mile apart in fully developed areas. In Deptford, these roads are largely under Gloucester County's jurisdiction. As discussed above, this category is divided into two classes for the purposes of the Circulation Plan: Major and Minor Arterials. However, the FHWA combines these categories into only the Urban Minor Arterial category. Examples of urban minor arterials are Glassboro Road and Delsea Drive.

FHWA- Urban Collectors

Collector streets are the next lower step in the street hierarchy. Collectors also distribute traffic between urban minor arterial streets. Urban collector streets provide access to individual lots and provide traffic circulation within neighborhoods in larger subdivisions such as Oak Valley. Collectors also service industrial and business parks by channeling traffic to arterial roads. Collectors are intended to carry up to 3,000 vehicles per day (ADT). Deptford Center Road's vehicle volume of approximately 15,700 vehicles per day (2013 count) far exceeds its classification as an urban collector.

FHWA – Local

All other streets are considered local streets by the Federal Highway Administration. These constitute by far the highest percentage of lane miles in the United States.

RESIDENTIAL SITE IMPROVEMENT STANDARDS

In January 1997 the New Jersey Department of Community Affairs adopted the Residential Site Improvement Standards (RSIS) in accordance with law enacted in 1993 to standardize the level of required public improvements for residential development throughout the state. The RSIS preempts municipal street standards for residential uses and has rendered invalid any existing ordinance provisions pertaining to the width of streets and cartways, parking requirements and technical engineering criteria.

The RSIS established a hierarchy of streets attuned to residential development. The RSIS classifications have some commonality with the FHWA terms, but are defined somewhat differently. All of the streets noted in this section are considered either urban collectors or local streets in the FHWA classification system. The RSIS establishes the following street hierarchy:

The highest order of residential street is called a *Major Collector*. This street type, as its name suggests, collects and distributes traffic between lower-order residential streets and the higher-

order streets in the FHWA's system. This type of street carries the largest volume of traffic at higher speeds compared to other residential streets. Its function is to promote free traffic flow. On-street parking and direct access reduce this free flow and should be avoided for this type of street. Major Collectors should be limited to no more than 7,500 trips per day.

In Deptford, most neighborhoods have been designed without major collectors due to the comparatively small number of housing units in any one location. Many of the Township's residential areas were constructed before the hierarchy of streets concept was established. The best example of a properly designed major collector is Locust Grove Boulevard, where traffic from the development is collected from minor collectors or sub-collectors and distributed to the arterial order of street.

Minor Collector is a middle order residential street. Such streets provide frontage for access to lots and carry traffic to and from adjoining residential access streets. Minor Collectors connect to either (Residential) Major Collectors or Arterials. This type of street should be designed to carry traffic volumes higher than lower-order streets such as rural and residential access streets, with traffic limited to motorists having origin or destination within the immediate neighborhood. They are not intended to carry through traffic. Each half of a loop-configured minor collector may be classified as a single minor collector street, but the total traffic volume conveyed on the loop should not exceed 3,500 ADT, nor should it exceed 1,750 ADT at any point of traffic concentration. College Boulevard is an example of a minor collector.

Residential Access streets are the lowest order classification, other than the rural street type. Most streets in subdivision design fall into this category. As its name suggests, this street type allows access to lots and carries traffic with a destination or origin on the street itself. They are designed to carry the least amount of traffic at the lowest speed. The best design practice is to front all of the lots on streets of this order. Each half of a loop street should be classified as a single residential access street, but the total traffic volume generated on the loop street should not exceed 1,500 ADT, nor should it exceed 750 ADT at any point of traffic concentration.

Specialized forms of residential access streets are cul-de-sacs, alleys, and parking loops which should not exceed 250-500 ADT, depending on design.

STATE HIGHWAY POLICY

The New Jersey Department of Transportation (NJDOT) adopted a Highway Access Management Code (HAMC) in April 1992, with several subsequent amendments, that applies to all of the roads under its jurisdiction. A major overhaul of the HAMC was started at NJDOT ten years ago, but has since bogged down. The HAMC was developed in response to the unprecedented increase in traffic congestion in the 1980's when the state realized that it could not construct enough road capacity to satisfy potential demand. This demand arose from several trends that solidified in the 1980's - a high percentage of women in the workforce, an

increase over time in the average lot size and house, and decreasing household size. These latter two factors increased the consumption of land in suburban areas. The HAMC changed state policy from one that emphasized access to abutting property to providing mobility for people and goods. In other words, it gave priority to moving traffic rather than allowing curb cuts for driveways.

Each state highway has been classified for different levels of access, depending on existing conditions and NJDOT's functional plans for the highway system. All of the limited access highways in Deptford, I-295, Rt. 42 and Rt. 55, are Access Level 1. Access is only achieved through grade-separated interchanges. Route 41 and Route 47 are the only state highways where abutting land has direct access. Both Rts. 41 and 47 are designated Access Level 4, which allows driveway interconnections to the state highway. Left turns are accommodated via the use of left-turn lanes.

NJDOT has also established an ultimate highway development classification called Desirable Typical Sections (DTS). This indicates how wide the state road, under ideal circumstances, would become in the future. No expansions are proposed for the freeway system. Rt. 41 is designated with a DTS of 4D from the Five Points intersection to Cooper Street, 4C from Cooper Street to McKee Avenue, and 4F from McKee Avenue to the Runnemede Borough line. DTS 4D has a right-of-way width of 78 feet, 4 undivided travel lanes and no shoulders. DTS 4C has a 102 feet right-of-way and 4 undivided travel lanes with shoulders or parking lanes. Finally, DTS 4F has a 116-foot right-of-way that includes 4 undivided travel lanes, shoulders, and a 14-foot wide two-way left turn lane (effectively a five-lane cross-section).

Route 47 has a DTS of 4C (see previous paragraph) from the Five Points intersection to approximately Brenner Avenue and 4E from that point to the Westville Borough line. DTS 4E has a 102-foot right-of-way and four undivided travel lanes with shoulders or parking. All of the DTS cross-sections are wider than the current rights-of-way; however, there are no current plans for widening either road in Deptford. Finally, it should be noted that the DOT is considering reevaluating the DTS designations statewide for the first time in many years, to bring the current designations into line with changing local and regional priorities, especially for municipal "main streets" such as Woodbury's Broad Street (Rt. 45), another project that has languished at the state agency.

GLOUCESTER COUNTY HIGHWAY POLICY

The Gloucester County Highway Master Plan provides a comprehensive analysis of the County's roadway system. The Master Plan includes an ultimate right-of-way circulation plan for its highway system that functions in much the same way as NJDOT's DTS standard. When a developer submits an application for development the County often requires a dedication of land for right-of-way purposes if the road is substandard in width. In most circumstances, the County's right-of-way policy may result in the dedication of additional land in Deptford. The table below lists the County routes and compares the existing and proposed rights-of-way.

Table VII-10. Comparison of Proposed County R.O.Ws with Existing R.O.Ws

No.	Road Name	Proposed R.O.W.	Existing R.O.W.
534	Good Intent Road/Cooper Street:		
	Woodbury line-Good Intent Road	88'	85'
	Cooper Street – Camden County	76'	50'
544	Clements Bridge Road	88'	74'
553	Glassboro Road	88'	66'
603	Blackwood – Barnsboro Road	76'	70'
621	Almonesson Road/ County House Road:		
	Westville Line – NJ Turnpike	76'	50'
	NJ Turnpike – Cooper Street	88'	50'-77'
	Cooper Street – Camden County Line	76'	40'-49.5'
644	Tacoma Boulevard/Andaloro Way:		
	Woodbury Line – Delsea Drive	76'	50'-60'
	Delsea Drive – Almonesson Road	64'	50'
645	Caulfield Avenue	64'	55'
646	Deptford Avenue	76'	50'
647	Fox Run Road	64'	40'
663	Tanyard Road	76'	50'-70'
706	Cooper Street	88'	50'-105'
712	College Drive	n/a	50'
715	Salina Road	64'	50'-74'

Source: Gloucester County Highway Department and Deptford tax assessment maps.

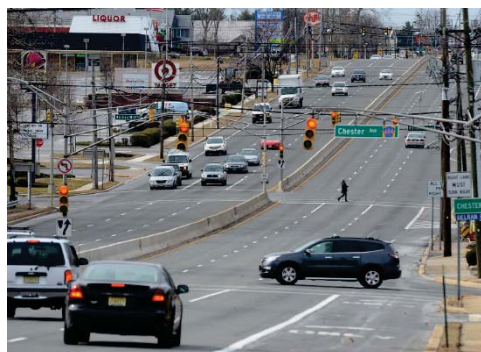
The County views its transportation responsibility as providing travel routes between municipalities and as connections from higher order roads (typically part of the state and federal systems) to significant regional attractions such as employment centers and shopping areas. Their rationale for the width of roads is to permit four or six lanes of travel with appropriate left turn lanes at intersections either with or without medians. Normally concessions are made in areas that are already developed, such as Good Intent Road, where no wider right-of-way is contemplated. The County also seeks municipal support before proceeding with a project. Nonetheless, road construction impacts within the proposed right-of-way would be significant. The County's road policy also has significant effects on the ability of pedestrians to traverse their streets. As roads become wider, it takes pedestrians longer to cross the street and as streets approach 40 feet in width, the length of time is longer than the

signal timing allows for traffic to be stopped. More pedestrian friendly streets are designed with refuge islands in the middle of wide streets, a type yet to be seen in Gloucester County, but common in other parts of the country.

COMPLETE STREETS

For decades, streets in New Jersey and across the nation were designed primarily to move vehicles with cyclists, pedestrians, and transit riders as an afterthought. Accordingly, there is a general lack of infrastructure within street right-of-ways for people who are not driving. This includes sidewalks, crossings, pedestrian-scale lighting, bus shelters, and bike lanes. At its core, this is an equity issue: the transportation network is structurally and financially designed to primarily benefit people who can afford a car, while others are left to travel on a network that often makes travel inefficient, inconvenient and unsafe for them.

Deptford has largely developed with a postwar suburban land use pattern and consequently is no exception to this trend. As portions of the Township have grown into more intensely developed areas, sidewalks and sidewalk connections have not always provided by the municipality, Gloucester County, or NJDOT. The Township officially requires sidewalks on all streets. However, in practice, this requirement is decided on a case-by-case basis when an applicant is proposing development on an existing street that lacks sidewalks. With the exception of Locust Grove Boulevard, bike lanes are also non-existent. In addition, many of the major roads in Deptford's commercial corridors lack sidewalks and safe crossings.



Route 130, Incomplete Street (TSTC)

With approximately one-third of the general population unable to drive for reasons such as age, disability, or income, it is important that this significant segment of the population be able to safely access destinations. Multimodal infrastructure is important not only for safety, accessibility, and encouraging people to walk or bike to their destinations rather than drive, but also for the Township to address broader trends affecting transportation choice: declining per capita vehicle miles driven, an aging population, fluctuating gas prices, and demand for walkable neighborhoods and destinations (including retail centers) by millennials and aging baby boomers.



Complete Street (HART TMA)

Deptford currently lacks many "Complete Streets" that accommodate these demographic and economic conditions. The National Complete Streets Coalition defines a complete street as

“designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities.”³⁹ As a means to advance the formation of Complete Streets, Deptford should create a long-term unified vision for its pedestrian transportation network. This document represents a start on this vision. As the first order of business, it should include a sidewalk plan that is based on the following principles:

- 1) *Sidewalks should be provided on both sides of arterial highways and collector roads that provide direct access to adjacent commercial, civic, or recreation uses.*

Many residents of the Township live in close proximity to major businesses, schools, and parks but have no safe means to access them other than by automobile. This policy would provide sidewalks on streets such as Clements Bridge Road, Almonesson Road, and Deptford Center Road in the vicinity of the Mall, as well as on streets like Cooper Street, Hurffville Road, Delsea Drive, and Good Intent Road. Requiring pedestrian connections along these types of routes would provide significantly enhanced pedestrian mobility and would “open up” the Township to those who live or work in the community who cannot drive or who have no access to an automobile. Since many of these routes are along County roads and would usually be in the County right-of-way, the Township would need to establish an agreement for their installation.

To strengthen municipal legal support for sidewalks connecting to proposed potential pedestrian generators and destinations, the Township should also revise §26.E.2 of the Unified Development Ordinance (UDO) to more clearly mandate sidewalks for multifamily and commercial developments. In the application review process, the board of jurisdiction would still be able to waive this requirement if necessary.

If pedestrians have no safe way to cross the street, then pedestrian safety and efforts to encourage walking will remain disappointing. Accordingly, all intersections involving arterial highways or collector roads with traffic control devices should include highly-visible crosswalks (painted, different surface, etc.), ADA-compliant curb cuts, curb extensions, and, where signalization is present, priority pedestrian signals with visual countdown timers and audible warnings. Again, this will take a cooperation approach with the Gloucester County Engineering Department and NJDOT. One approach would be to create an actual memorandum of understanding between these other levels of government and the Township.

Pedestrians will only use crosswalks if they are conveniently located. If it is a five minute walk to the closest intersection where the individual will have to double-back in the other direction to reach a destination that is across the street, people will risk crossing the street mid-block. Mid-block crossings at uncontrolled locations are

³⁹ <http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals/complete-streets-faq/>

particularly dangerous to pedestrians, research shows. Where there are long segments of arterial and collector roads without controlled intersections, the Township should consider installing mid-block crossings, which should be signalized or otherwise engineered so drivers see and stop for pedestrians.

- 2) *A sidewalk prioritization list should be created that ranks recommended sidewalk locations.*

In order to determine where to allocate scarce funding, a sidewalk plan should be developed that ranks the Township's sidewalk priorities based on factors like traffic volume/speed, presence of pedestrian-friendly destinations, connection to the existing sidewalk network and dangerous pedestrian conditions. For example, the sidewalk system around the Deptford Mall is limited, yet paths worn in the perimeter landscaping provide evidence of the demand for sidewalks. Particularly on Deptford Center Road, connections from the Deptford Mall proper to the secondary retail development on Almonesson Road, Hurffville Road (Rt. 41) and Clements Bridge Road are critical for pedestrian safety for both shoppers and employees. Moreover, Deptford's large but relatively low-paying retail service sector likely comprises a disproportionate share of employees without vehicle access. The heavy vehicular traffic and wide roads in the area makes the need for a safe pedestrian system all the more important.

- 3) *Sidewalks should continue to be required on all residential streets consistent with RSIS standards.*

The only exceptions to these requirements should be where an applicant is proposing minor infill development on a residential street that does not have existing sidewalks. An example of minor infill development is a minor subdivision.

- 4) *Easements should be pursued to provide sidewalk connections between two residential developments or to destinations.*

The streets in many of Deptford's postwar residential developments were designed for cars to feed into collector and arterial streets by means of one or two access points. This often means that, while the straight-line distance to a destination is a short walk, the transportation network dictates that the distance and time required to reach it is high enough that residents who have a choice will drive instead of walk or bike. As the adjacent map shows, a theoretically short walk between neighborhoods on Nathan Hale Drive and off Caulfield Avenue is considerably longer and is actually a 1.2 mile walk. Another example involves the Bexhill Farms neighborhood behind Deptford High School. Without traversing private lots, a student living on Androssen Court would need to walk 1.1 miles on two major roadways to reach the High School track. This is no doubt the reason that the fence between Fasola Park and the high school athletic fields has a hole in it. With two crashes involving pedestrians on Fox Run Road near the High School, there is an established need for safer bike and pedestrian connectivity to the school grounds and demand from students, many of whom are too young to drive. The 2014 Fasola Park Master Plan calls for a formal pathway system. By increasing sidewalk connectivity between residential developments and to destinations such as community spaces and retail areas, accidents involving pedestrians should be reduced. Encouraging walking over driving and pedestrian travel on lower speed streets also promotes community health, a topic of increasing concern.



Poor Neighborhood Connectivity
(CCH Calculations and NJOIT)



Poor Destination Connectivity
(CCH Calculations and NJOIT)

5) *Evaluate when bicycle paths are preferred over sidewalks.*

Bicycle paths are typically paved in asphalt to provide a smooth surface while sidewalks are concrete. The Bicycle Routes section below contains recommendations related to bicycle paths.

6) *Prepare a capital improvement plan to construct missing links.*

With the priority list in item no. 2, the Township can pursue bicycle and pedestrian funding through NJDOT's Safe Routes to School program, which has pass-through money from the federal government's Transportation Alternatives program. Also, with modest but consistent multi-year funding, the priority list could be utilized to complete missing links in the pedestrian system. This would operate like the road improvement program, but on a much smaller scale. Residents could be encouraged to recommend sidewalk projects that could then be evaluated and placed on the priority list.

7) *New and major retrofits of non-residential developments should include a hierarchical internal sidewalk network.*

Deptford is a regional commercial center with extensive shopping centers surrounding the Deptford Center Mall, on Rt. 41 and Rt. 47. The parking lots of many of these commercial destinations were constructed prior to the enactment of §27.B.9 of the UDO, which requires that parking lots with at least 50 spaces provide an internal sidewalk system. The lack of pedestrian connectivity within parking lots not only jeopardizes the safety of people walking or biking for their entire trip, but also that of everyone who is walking from their car into the building. This section could also be strengthened to permit the Planning Board to require a hierarchical sidewalk network for parking lots with fewer than 50 spaces, should the board of jurisdiction deem it necessary. Sidewalks should also be required around the ring roads of retail centers.

In addition, §27.B.9 of the UDO should be revised to include an internal sidewalk hierarchy for parking lots that functions in a similar manner to the FHWA functional classification system described herein. The required sidewalk "arterial" should be a spine that runs from the main entrance of a building towards the rear of the parking lot. This is the main walkway to a storefront and should be at least six feet wide to accommodate peak pedestrian traffic and two passing wheelchairs or shoppers with carts. Sidewalk "collectors" branch off from the spine to serve large areas of the parking lot on either side of the store entrance. They should be at least five feet wide. "Local" sidewalks are intended to connect several rows of parking with a collector and should also be at least five feet wide. Where parking lot sidewalks intersect with a vehicular area, ADA-compliant curb cuts should be provided. To further encourage drivers to watch and slow down for pedestrians in front of congested store entrances, the main pedestrian crossing in front of a store entrance should be a speed table.

8) *Clarify the Typical Streetscape Section to make it more pedestrian-friendly.*

Pursuant to §31.M of the UDO, commercial, multi-family residential, and institutional uses must be designed according to the Township's Streetscape Design Standards, including the Typical Streetscape Section. However, the names of the sidewalks in the Streetscape Section (walkway) and in the ordinance (dual purpose sidewalk) do not adequately convey the intended multipurpose nature of zone. Such a sidewalk must be wide enough to accommodate bicyclists, pedestrians, and other users while providing an inviting space for people to walk or bike to destinations instead of drive. Accordingly, both the ordinance and Streetscape Section should be revised to refer to the sidewalk as a "multi-purpose sidewalk" with a standard width of 8 feet,⁴⁰ which could be modified as circumstances warrant.

Complete Streets Policy Recommendations

To ensure that all users of the road are considered in the planning, design, construction, operation, and maintenance of streets, government can enact Complete Streets policies to codify this approach into law. Such restrictions typically have exceptions for cost and feasibility. In New Jersey, 114 municipalities (including Mantua and Woolwich in Gloucester County), 7 counties (but not Gloucester), and NJDOT have such policies. A successful policy in practice should be accompanied by an implementation plan. NJDOT defines five steps for implementing the Complete Streets approach:⁴¹

- 1) Updating plans, policies, and procedures to incorporate Complete Streets principles;
- 2) Incorporating Complete Streets into the development process;
- 3) Building institutional capacity through training, communication, and monitoring;
- 4) Creating partnerships; and
- 5) Initiating pilot projects to build support and demonstrate the value of Complete Streets.

Guidance on creating and implementing Complete Streets policies is available from several entities, including NJDOT, the New Jersey Bicycle and Pedestrian Resource Center, and the National Complete Streets Coalition. NJDOT uses the Resource Center to provide technical assistance through trainings and workshops.

Deptford should consider the adoption of a Complete Streets policy to guide its land use and development decisions. It should state that new construction and reconstruction (excluding

⁴⁰ http://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/pdf/r15chapter14.pdf

⁴¹ <http://www.state.nj.us/transportation/eng/completestreets/pdf/cscreateimplementationplan.pdf>

maintenance) undertaken by the Township to be designed and constructed as "Complete Streets" whenever feasible and subject to the following conditions:

- 1) Pedestrian and bicycle facilities shall not be required where they are prohibited by law.
- 2) Public transit facilities shall not be required on streets not serving as transit routes and the desirability of transit facilities shall be determined on a project specific basis.
- 3) Additional local costs do not exceed 20% of the reconstruction project costs for vehicle-only improvements.
- 4) Complete streets facilities will not be required where significant adverse environmental impacts outweigh the positive effects of the infrastructure.
- 5) The character of the particular road shall be considered in connection with the implementation of the Complete Streets policy.

BICYCLE FACILITIES

Adequate bicycle infrastructure that separates bicycles from vehicles is necessary to significantly reduce car/bike conflict zones (and thus accidents) and encourage people to bike to everyday destinations, not just for recreation. A 2014 survey of 2,283 residents across five cities indicated that approximately two-thirds of those respondents would be more likely to ride a bike if there was physical separation between cars and bikes, including 85% of those who were "interested but concerned" about biking. In addition, 10% of cyclists surveyed who had protected bike lanes available had switched from other modes of transportation.⁴² As this information shows, protected bike facilities have the potential to attract residents interested in biking, including those who otherwise would take motorized transportation. Other municipalities have successfully applied for bicycle path construction funds based on an adopted plan. As part of its Complete Streets approach, the Township should consider the following recommendations to facilitate bicycle use:



*Class I Bi-Directional Protected Bike Lane
(Streets.mn)*

⁴² - http://ppms.otrec.us/media/project_files/NITC-RR-583_ProtectedLanes_FinalReportb.pdf



Clarke Caton Hintz ● ● ■
 Architecture
 Planning
 Landscape Architecture

Bicycle Routes

LOCATION:
 Deptford Township, Gloucester County, NJ

DATE:
 January 11, 2017

1) Create a bicycle route network as depicted in the Bicycle Routes Map.

The Township should pursue funding and coordinate with Gloucester County and NJDOT to construct the bike routes as depicted and classified on the Bicycle Routes Map. As stated previously, the NACTO Urban Bikeway Design Guide should be the primary reference for bikeway design, including at intersections.



Class II Bike Lane (WNYC)

Following the AASHTO classification system⁴³, the Township's system - once fully implemented - consists of Class I, Class II and Class III routes and are depicted on the Bicycle Routes Map on the following page.

Bicycle routes are typically classified in the following manner:

Class I (Separate Facility) - A non-motorized paved cartway, physically separated from motorized vehicular traffic by an open space strip or curb barrier. This is also called a bicycle path, bike trail, multi-purpose trail or some combination thereof.

Class II (Bike or Bicycle Lane) - A portion of a roadway that is designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists. Most often these are done in couplets, each one being one way and adjacent to the outside through travel lane.

Class III (Bike or Bicycle Route) - A segment of road designated by the jurisdiction having authority, with appropriate directional and informational markers (e.g., markings on the road called "sharrows"), but without striping, signing and pavement markings for the preferential or exclusive use of bicyclists.



Sharrows

2) Revise the UDO to make bicycle travel safer and more attractive to potential riders.

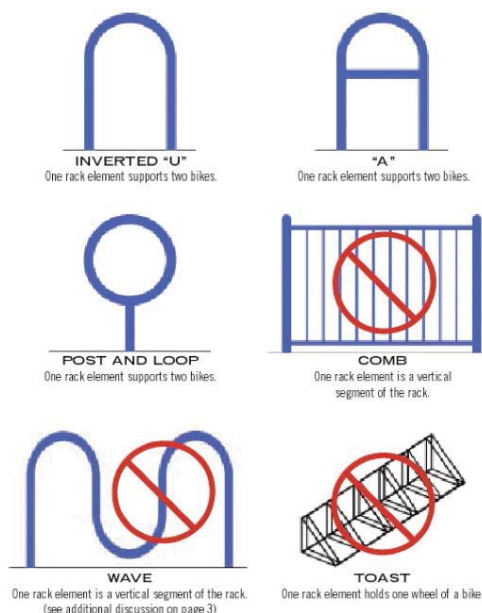
Section 26.F.2 of the Unified Development Ordinance (UDO) should be revised so that bicycle lanes, which are a typical feature on Class 2 bike routes, are located between the curb and parking lane whenever feasible. Unprotected bicycle lanes between

⁴³ - American Association of State Highway Transportation Officials, *Guide for Development of New Bicycle Facilities*, 4th ed., 2012 with 2013 errata.

parked cars and moving vehicles expose cyclists to the dangers of vehicle traffic and “dooring” crashes when parked drivers open their doors into passing cyclists, potentially throwing cyclists into the path of moving vehicles.

The FHWA’s recommended bicycle path width is between 8 and 10 feet in order to allow for shared use with pedestrians.⁴⁴ Accordingly, the minimum bikeway width in §26.F.3(a) of the UDO should be revised to 8 feet. In cases where there is insufficient width in the right-of-way to allow for this wide of a path, the absolute minimum width should be 6 feet.

Language should also be added to §26.F.3 requiring the use of the most recent National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide as the primary reference for bikeway design. The FHWA supports using the NACTO guide⁴⁵ and nearly all of its designs are permitted by the Manual on Uniform Traffic Control Devices (MUTCD).⁴⁶ The MUTCD provides national standards for traffic control devices and is followed by public agencies across the country. This is why drivers typically see the same traffic control devices (stop signs, traffic lights, etc.) everywhere in the United States.



- 3) *Enact bicycle parking standards for multifamily and commercial developments.* *Bike Rack Guide (Sacbike.org)*

People are more likely to bicycle where they know that can conveniently and safely secure their bikes. Such parking should also be available to people dependent on bikes to commute to work (often in services and retail) who now may lock their bikes on poles or trees in parking lots or behind their workplaces. The Township should amend the UDO to include a bicycle parking requirement for potential bike parking generators such as multifamily housing, food stores, educational uses, shopping centers, and individual retail, restaurant, and service establishments.

⁴⁴ - http://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/sidewalks214.cfm

⁴⁵ - http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/design_flexibility.cfm

⁴⁶ - <http://nacto.org/publication/urban-bikeway-design-guide/>

The number of spaces for bicycles should equal at least 10% of the total required number of parking spaces for the first 100 spaces and 2% thereafter, with a minimum of six spaces. Bicycle parking areas should be designed to provide secure anchoring for locking devices and be within 50 feet of building entrances. Additionally, bike parking should be in well-lit areas, not within 2 ft. of a parallel wall or 2.5 ft. of a perpendicular wall, not require stair access from the street or main point of access, and ideally, protected from the weather. However, such parking should not obstruct vehicle or pedestrian traffic. To best accommodate bicycles of all frame and tire sizes, the permitted bike parking facilities should be only bike lockers, post and loop racks, inverted U Racks, or “A” racks.⁴⁷

TRAFFIC CALMING

Traffic calming is an approach to traffic planning that attempts to reduce the volume and speed of vehicles in neighborhoods while maintaining maximum mobility and access. Traffic calming has become more common in New Jersey as concerns with speeding vehicles in neighborhoods and a rise in pedestrian fatalities state-wide has made traffic calming measures more attractive to municipal officials. By reducing vehicle speeds, traffic calming methods can help decrease the number and the severity of accidents, reduce air quality and noise impacts related to vehicle traffic, and can actually increase the capacity of existing road space by reducing the travel distance required between each vehicle.⁴⁸ These methods can also encourage greater use of the street by pedestrians and bicyclists.



Lit Crosswalk and Roundabout (Itemled.com)



HAWK Signal (KabirCares.org)

Traffic calming techniques include both active and passive controls. Active controls focus on physical alterations to roadway design and include the installation of speed tables, rumble strips, diagonal diverters, median barriers, curb extensions, and other construction that alters the cartway. Passive control devices include traffic signs, traffic signals, and pavement markings that are intended to regulate traffic without direct physical intervention. However, studies that have been done in the United States - particularly in the Pacific Northwest states - and Western Europe find that the active controls are substantially more effective than passive controls. Studies have consistently shown that speed limit signs, for example, are widely

⁴⁷ - <http://www.fhwa.dot.gov/publications/research/safety/pedbike/05085/pdf/lesson17lo.pdf>

⁴⁸ - *Traffic Calming*, Cynthia L. Hoyle, American Planning Association, PAS Report No. 456, 1995.

ignored when the design of the roadway permits motorists to comfortably travel at higher speeds. This occurs on many roads in Deptford. Roadway design is evolving towards “self-reinforcing” speed limits through traffic calming methods that alert motorists to the proper speed for their vehicles.

A glossary of terms and illustrations describing various active traffic calming measures follows.

SPEED TABLES. A speed table is a raised hump in a street that extends across the roadway. The speed table is approximately 12 feet long, so that both the front and rear wheels of a car sit on top of the table at the same time. The extended length is also needed to allow normal snow plowing operations. Speed tables can be comfortably crossed only at a speed of 15 to 20 miles per hour.



Mid-Block Speed Table (NACTO)

RUMBLE STRIPS. Rumble strips are patterned sections of rough pavement that cause vibrations in a vehicle, causing a driver to become more alert and slow down. Studies have shown that a change in road surface affects primarily the upper end of acceptable speeds in residential areas. However, studies have also shown that such strips have noticeably reduced accidents when placed in advance of stop signs.



Curb Extensions (FHWA)

CURB EXTENSIONS / BULBOUTS. These devices reduce vehicle speed by extending the curb to block access in one direction or to provide protection for parking bays.

CHICANES. A variation of the bulbout technique is the use of *chicanes*, which are curbed extensions to protect parking that alternate from one side of the street to the other. These are sometimes called *woonerfs*, the Dutch term for the concept where it originated. An extension of this concept is the creation of PEDESTRIAN STREETS as in found in Western Europe, where the entire surface is paved for pedestrians. The vehicle travel lane is then limited to about eight feet, with a widening for passing every 100 feet. Streets are broken up into small sections by the use of large planters, walls, benches, barriers, or mounds.

ROUNABOUTS. A roundabout is created by installing a raised island, which is usually landscaped or otherwise demarcated, at the intersection of two streets. In addition to reducing traffic speed, roundabouts are more effective than stop signs and traffic signals, when designed correctly, in reducing the number of accidents at intersections. Roundabouts differ from the sometimes notorious New Jersey “traffic circles” that became a byword for accidents, confusion, and congestion. The roundabout illustrated here differs in substantive ways from the state highway traffic circles. Roundabouts are much smaller than the traffic circles and handle fewer vehicles. One of the reasons that state traffic circles gained their poor reputation was that the volume of traffic greatly exceeded their design specifications. Roundabout design has advanced since the time when the New Jersey’s traffic circles were first created in the 1930’s. Roundabouts handle one lane of traffic at each intersection into the circle; traffic circles often had multiple lanes entering in the same direction.



Roundabout (Burlington County Times)

Roundabouts have been successfully implemented across the nation, including in New Jersey, and are encouraged by the Federal Highway Administration and are approved by NJDOT. The FHWA has issued a design manual for roundabouts as well as the influential American Association of State Highway and Transportation Officials (AASHTO) organizations. Consequently, roundabouts are becoming more accepted in New Jersey for several reasons. One, study has shown that roundabouts greatly reduce side impact accidents that are often the most dangerous to occupants. Two, traffic keeps moving, even if slowly, thereby reducing fuel consumption. Three, roundabouts eliminate the cost and expense of installing and maintaining traffic signals (though this is offset to a degree by plant maintenance, if they are landscaped).

ROAD DIETS. Postwar suburban arterial roads were often unnecessarily constructed with more lanes given eventual traffic volumes. The increased cartway associated with wider roads encourages speeding and passing and, when compared to a two-lane road, can more than double the crossing distance for pedestrians.



Road Diet Before (Left) and After (Right) (City of Philadelphia)

Road diets are an inexpensive and increasing common method to traffic calm streets and can be accomplished during a repaving project. Typically, a four-lane street is reduced to two travel

lanes with a center turn lane, and, ideally, one bike lane on each side of the road. The center turn lane can reduce rear end and left turn accidents associated with drivers taking left turns from the left through lane. A FHWA study found that road diets have minimal effects on road capacity and, on the chance that congestion increases, drivers simply choose other routes.⁴⁹

INTERRUPTED SIGHT LINES. Many of the devices discussed above create interrupted sight lines, which cause drivers to slow down to widen their field of vision. In Millville, for example, the Police Building terminates the vista looking south on High Street. Terminating the view can also be accomplished through landscaping elements, such as those in a roundabout. Other methods of interrupting sight lines are gateways that arch over the road and walls that define the street line at a T-intersection.

Traffic calming devices and techniques are becoming more common as traditional methods of maintaining speed control consume more manpower and the costs of maintaining traffic signals increases. Since the Township does not have jurisdiction over the arterial road system, that being under the jurisdictions of the state and county, it can most easily institute some of these techniques on its own streets. The best candidates for introducing traffic calming are residential collector streets, such as Locust Grove Boulevard, where the street underwent a road diet and established painted bike lanes, as well as wide separated dual-use pathways.

ADDITIONAL COMPLETE STREETS RECOMMENDATIONS

Deptford can make other changes to support Complete Streets, encourage walking and biking, and making streets safer for all road users. Additional transportation enhancements that the Township could consider include:

- 1) *Revise existing non-residential off-street parking standards.*

While too much parking means that drivers can find a parking spot at their destination at any time of the day or year, a rarely-used parking area also increases the distance that pedestrians must travel from a street to a business, generates more stormwater runoff than necessary and reduces the land available for buildings, which are taxable real property.

From observation, numerous parking lots in the Township's commercial center have more parking than is necessary for current demands. Consequently, the Township should consider revising its commercial and parking standards in §27.D to reduce the parking minimums or even in some circumstances create maximum parking standards. While demand for some uses certainly necessitates parking at the level set by the UDO – for example, the Deptford Mall – a diet on parking requirements would

⁴⁹ - <http://www.fhwa.dot.gov/publications/research/safety/humanfac/04082/>

have substantial benefits. Revised parking standards should acknowledge that higher parking quantities may be required by the tenants leasing commercial property.

The Township's existing parking requirements do not permit shared parking in many cases where it could be considered. Currently, §27 of the UDO only permits shared parking for mixed-use (§27.B.12) and planned commercial developments (§27.D.21). To encourage shared parking among a larger variety of sites, §27 could be revised to permit shared parking where an applicant persuasively demonstrates that two or more parking generators of any use have complementary parking demand using accepted shared parking analyses.

- 2) *Encourage Gloucester County and NJDOT to make their streets safer and more inviting for pedestrians and cyclists.*

The Township has limited jurisdiction on many of its major streets. Consequently, Deptford should advocate to Gloucester County and NJDOT to implement Complete Streets measures such as sidewalks, pedestrian crossing signals and crosswalks, benches, and pedestrian-level lighting on its streets in the Township. The State already has the policies to implement such improvements: NJDOT approved a Complete Streets policy in 2009 and a Pedestrian Safety Action Plan Toolbox in 2014. When a municipality has also adopted a Complete Streets policy, the also recognizes that it is serious about mobility, which has a positive effect when considering local funding.

The priority improvement areas for the County and State should be the cyclist and pedestrian crash clusters as depicted on the Bicycle Routes Map, particularly Delsea Drive at Cooper Street, Locust Grove Boulevard at Clements Bridge Road, Almonesson Road between Cooper Street and Deptford Center Road, Fox Run Road near Deptford High School, and Delsea Drive between Carteret Avenue and the Westville Borough municipal boundary. The County and State should also study adjustments to the ten most dangerous intersections in the Township as depicted on the Circulation Plan Map. If curb radii or the number of lanes increase, refuge islands should be created in the center of the right of way.

3) *Coordinate with NJ Transit to install bus shelters along bus routes.*

Bus stops should provide a safe and comfortable place for bus riders to wait, which, in Deptford, can be more than an hour. A bus stop that is only indicated by a sign on the side of the street is unsafe (exposure to passing vehicles) and uninviting (exposure to the elements) to riders and potential riders. The Township should work with NJ Transit to provide bus shelters in appropriate locations along its bus routes in Deptford where they presently do not exist, with the priority being the most frequently-used stops along local routes.



Bus Shelter (Wikimedia Commons)

STREAM CORRIDOR TRAIL CONNECTIONS

One of the most successful strategies for both improving bicycle/pedestrian mobility and increasing park and recreation amenities is to develop multi-purpose trails along stream corridors. These ribbons of green form linear parks that can be used to create greenways connecting open space parcels and other places of interest, such as a community center. Any trail should provide feeder connections to schools and residential and commercial developments. Deptford has several such corridors that run through much of the Township. These facilities are often relatively inexpensive to construct and provide significant benefits to the community. The following stream corridors should be studied further to assess the feasibility of developing multi-purpose trails.

MONONGAHELA BROOK AND TRIBUTARIES – This stream flows from east to west in the southern portion of the Township in close proximity to Rowan College at Gloucester County, the GCIT High School/Middle School campus, Monongahela Middle School and several residential subdivisions. It eventually flows into Mantua Township. A tributary of the creek flows through the Lakes of Bankbridge tract that is adjacent to the Township’s soccer complex. A trail along this corridor could provide a connection between all of these locations.

BIG TIMBER CREEK AND TRIBUTARIES – The Big Timber Creek forms the eastern boundary of the Township. Several large tracts of land along its banks are already parkland or in public ownership, including Timber Creek Park, land owned by NJDEP east of Route 42, as well as lands under stewardship of the Old Pine Farm Natural Lands Trust. That group has already assembled land along the Creek and a tributary that runs in the vicinity of First Avenue. The Old Pine Farm Natural Lands Trust is committed to providing a greenway all

the way down the Creek to the Delaware River. NJDEP is also interested in this greenway, as it owns the Andaloro Wildlife Management Area and is managed in conjunction with the South Jersey Land and Water Trust (see Open Space and Recreation Element). Pursuing additional open space acquisitions as recommended elsewhere in this document could eventually result in a publicly accessible path system along the creek.

ALMONESSON CREEK – Almonesson Creek flows south to north in an area east of Almonesson Road and west of Hurffville Road. It passes by many of the most intensely developed commercial properties in the Township as well as some residential areas south of Cooper Street. Some trails already exist near its banks in the vicinity of Almonesson Creek Park. Since it has steep slopes in a number of areas, further investigation will be necessary to determine if a viable trail could be established along this waterway that would provide a pedestrian connection to the commercial uses in this area.

WOODBURY CREEK – Woodbury Creek and its tributaries flow north and west into Stewart Lake. Some of the tributaries are physically cut off by the New Jersey Turnpike. However, one tributary begins near the Whispering Lakes proposed open space parcel and flows between the Lakebridge neighborhood and Carson Avenue. This corridor holds the potential to link the Whispering Lakes open space with the existing park at Stewart Lake, which is shared with the City of Woodbury.

Any trail systems must be maintained. Trails lend themselves to volunteer involvement. Once constructed, maintenance consists of removing encroaching vegetation, picking up trash, and periodically adding new path material, whether it is wood chip, gravel or sand. There are many examples of volunteer organizations in the metropolitan area that adopt a section of trail and undertake these activities. Trails need to be designed to prevent use by ATV's and dirt bikes that would tear up the path, accelerate erosion, and be a hazard to pedestrians using it. Access would need to be controlled at trailheads, which is where trails intersect with the road system. Certain trails might be earmarked for mountain biking as well as pedestrian use. These typically would need to be wider than pedestrian only trails.

Trails through stream corridors often encounter environmentally sensitive lands, such as freshwater wetlands and their transition areas and flood plains (*see Conservation Element*). Activities and disturbances in freshwater wetlands and flood plains are regulated by the New Jersey Department of Environmental Protection (NJDEP). NJDEP has established rules for wetlands disturbance, and in many cases has created a process for combination permits that include both wetlands and stream encroachment (activities in flood plains). These are called general permits. Activities that do not fall under any of the general permits require an individual permit, which is difficult to obtain. Fortunately, NJDEP has devised a permit specifically for the creation of trails in wetlands and transition areas, General Permit 17. Trails constructed by local governments, as compared to private interests, have some additional advantages in being able to create a comprehensive system. In some narrow circumstances,

General Permits 10A and 10B, which are for road crossings, may be required if the municipality anticipates any motorized vehicle for maintenance purposes.

BUS TRANSIT

Bus service in Deptford is provided by New Jersey Transit, an agency of the state government. Eight different routes operate in the Township, with six routes primarily servicing as an interstate commuter service to Camden and Philadelphia, with some access to major destinations like downtown Woodbury and the Deptford Mall, and local bus routes. These existing routes are described below and depicted on the Bus Route Map found on page VII-37:

Interstate/Commuter Routes

ROUTE 400 –SICKLERVILLE-PHILADELPHIA

- Primarily runs along Black Horse Pike in Camden County
- Serves the Deptford Mall via Clements Bridge Rd., Deptford Center Road, Route 41, and then back to Black Horse Pike in Runnemede.

ROUTE 401 –SALEM-PHILADELPHIA AND ROUTE 402 –PENNSVILLE-PHILADELPHIA

- Skirts the northern edge of the Township along Broadway in the Westville Grove neighborhood.

ROUTE 408 –MILLVILLE-PHILADELPHIA

- Runs along the full length of Delsea Drive from the Township's northern border at I-295 to the southern border at Five Points.

ROUTE 410 –BRIDGETON-PHILADELPHIA

- Travels along the western edge of the Township on Route 45 (Mantua Pike) in Oak Valley and after traversing Woodbury, continues on Broadway in Westville Grove.

ROUTE 412 –GLASSBORO-PHILADELPHIA

- Runs along Woodbury-Glassboro Road (Rt. 553) from southern border with Mantua Twp.
- Continues on through Woodbury and eventually back to Deptford via Broadway in Westville Grove.

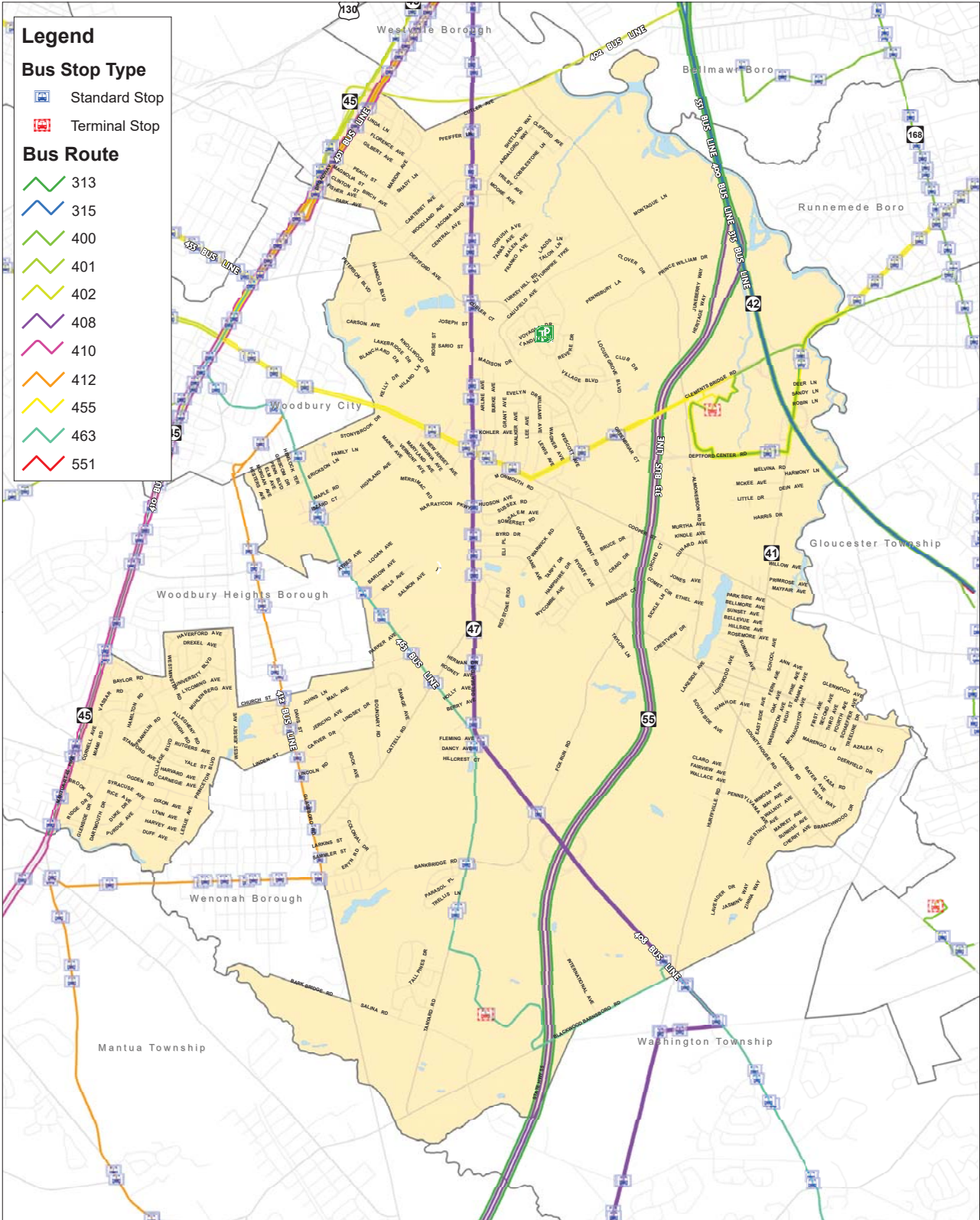
Local Routes

ROUTE 455 –CHERRY HILL MALL-WOODBURY-PAULSBORO

- Enters Township on Cooper Street from Woodbury.
- Runs along Cooper Street to Clements Bridge Road.
- Runs along Clements Bridge Road to Almonesson Rd. and Deptford Center Road (stops at mall).
- From Deptford Center Road the route continues to Route 41 and back to Clements Bridge Road and into Runnemedede.
- Very infrequent service, with an approximate weekday headway range of 50 minutes to 75 minutes.

ROUTE 463 –WOODBURY-AVANDALE PARK AND RIDE

- Enters Township from Egg Harbor Road at Five Points.
- Travels south on Barnsboro-Blackwood Road.
- Stops at Rowan College at Gloucester County
- Goes through campus to Tanyard Road.
- Runs north along the length Tanyard Road into Woodbury.
- Very infrequent service, with weekday headways of approximately 70 minutes.



Clarke Caton Hintz ●●■
 Architecture
 Planning
 Landscape Architecture

Bus Routes

LOCATION:
 Deptford Township, Gloucester County, NJ

DATE:
 January 11, 2017

The commuter bus routes that serve Deptford provide good access to the major employment centers located in Camden and Philadelphia to the north, as well as in Glassboro to the south.

None of the bus routes provide particularly frequent or convenient access to the Township's major shopping areas. Only one local bus route, the 455, serves the Deptford Mall. With the 455's limited service area in the Township (Clements Bridge Road and the western portion of Cooper Street) plus its exceptionally infrequent headways, service is too limited to attract more than a sparse level of ridership from people who have no other travel option.

Increased service with approximately 30-minute peak hour headways on Route 455 and along Almonesson Road, Hurffville Road, and Clements Bridge Road would provide residents with additional means to access the plethora of services and retail stores, for both shopping and employment, in the Township. With the proper level of service, buses can attract both transit-dependent and transit-choice riders.

PROPOSED BUS RAPID TRANSIT SERVICE

The *Southern Jersey to Philadelphia Transit Study*, released in October 2005 by the Delaware River Port Authority, examined the feasibility of extending rail transit to serve the commuter market in southern Jersey, specifically along the Camden-Glassboro-Millville Corridor. The study identified three "short-list" alternatives for a proposed extension of the Port Authority Transportation Corporation (PATCO) high speed line that would serve Deptford Township. PATCO presently operates a commuter heavy rail line from Lindenwold, New Jersey to Philadelphia via the Ben Franklin Bridge over the Delaware River. From its inception, this line was to be one of three lines that would serve the three metropolitan counties in New Jersey: Burlington, Camden and Gloucester Counties. Growth in Gloucester County and the continued heavy commuting traffic in the region's highway corridors have contributed to a renewed effort to examine the feasibility of the rail line.

The study indicated three alternatives, one of which was proposed to run next to Route 42 and then south in the median of Rt. 55 towards Glassboro. When Rt. 55 was planned, the right-of-way acquired was sufficient to permit a heavy or light rail system in its median. The 2007 Master Plan and Township Council endorsed this alternative. However, this alternate was not selected; instead the route from Camden through Woodbury, Woodbury Heights, Wenonah, Pitman and terminating in Glassboro was selected.

However, NJ Transit determined that a combination of alternate routes 2 and 3 (the third alternative was a Rt. 42 only route into Washington Township and perhaps Monroe) had sufficient interest from potential passengers to consider the development of a bus rapid transit system. Previously unknown in the state, a bus rapid transit system is a combination of bus lanes on highways, sometimes as a separate lane, with limited stops. The intent of the system is to move commuters from home to work, rather than other destinations. The bus stops would be developed with park and ride facilities similar to those around rail systems.

Borrowing another cue from railroad station design, the stops would also have raised platforms to facilitate rapid passenger loading and unloading. As proposed, the system would have a leg that terminated at the Rt. 47 interchange of Rt. 55. Such a system would cost much less than creating a new heavy rail passenger system and is more flexible, both in terms of time and in being able to detour around emergency conditions. Because of its lower cost, the bus rapid transit system can be implemented more quickly. The proposed new passenger rail service has been put on the back burner by the U.S. Department of Transportation because no sponsor has been found for the project. The bus rapid transit project is at the stage where a draft environmental impact assessment is being conducted.

NEW ROAD SEGMENTS

The Township's roadway network does not provide for sufficient east-west movement. As a result, drivers are often forced to take circuitous routes and funnel through the relatively few roads and intersections that provide connections between the concentration of retail stores and services in the northeastern portion of the Township and the residential areas in the western and southern areas. The following proposed road segments seek to provide enhanced east-west connections and alleviate congestion at overburdened intersections.

Deptford Center and Caulfield Roads Extensions

Many of the intersections in the vicinity of the Deptford Mall are routinely congested and overburdened. Although the area is heavily developed, a unique opportunity exists to create a new connection between several key roadways as development occurs on the south side of Clements Bridge Road west of Rt. 55. This road segment is a refinement of a planned extension that has been on the Township's Circulation Plan since 1989 and also incorporates a project promoted by the Township to NJDOT (and originally proposed as part of the construction of Rt. 55). The Master Plan road continues the extension of Caulfield Avenue from Clements Bridge Road to Cooper Street from the 1989 Plan. In addition, it would include extending Deptford Center Boulevard west and north to intersect with Clements Bridge Road at Locust Grove Boulevard, taking over the right-of-way of Green Briar Court. A new segment is proposed that would connect these two roads to create a road parallel to Clements Bridge that would turn south and intersect with Cooper Street. A four-way intersection would be created, or possibly a roundabout where the off-ramp southbound from Rt. 55 now curves over the highway to Deptford Center Road. A new on-ramp to southbound Route 55, which currently does not exist, allows those traveling from the north from the Locust Grove development, from the west along Clements Bridge Road and from the south via Cooper Street to access Route 55 without having to go through the intersection of Clements Bridge Road and Almonesson Road and the severely congested Almonesson/Deptford Center Road intersection.

Cross Town Connector and Fasola Park Drive

This proposed roadway would function as a minor collector and provide an important east-west link in the central part of the Township. It is envisioned that the roadway would begin at Tanyard Road, opposite Mail Avenue, curved to form a right angle with Cattell Road, and then paralleling Herman Avenue intersect with Sycamore Avenue at Delsea Drive. Following Sycamore, it skirts the south side of Fasola Park and the Deptford Township high school football stadium and ends at Fox Run Road. The route would require a reconstruction of the high school parking lot to allow the connection to avoid wetlands. This road would greatly facilitate travel within the municipality, particularly for transporting students to the high school and to the many events held there as well as Fasola Park. It would provide an alternative to Cooper Street and Good Intent Road as east west travel links in the north central part of the Township. The expansion of Fasola Park southward, as indicated in the Open Space and Recreation Element, will need to be designed with the connector in mind when property is acquired to implement the plan. The right-of-way would need to be acquired separately through subdivision to avoid conflicts with state Green Acres regulations. Due to the park's proximity, it is envisioned that this roadway would be designed at the beginning with "traffic calming" to keep speeds low. A roundabout was constructed in 2016 at the edge of Fasola Park as a traffic calming measure.

Bankbridge Boulevard Connector

Bankbridge Road serves as an east west connection between Delsea Drive/Route 55 and Glassboro Road. Motorists who desire to continue further west to Wenonah and Route 45 (Mantua Pike), must currently make two turns on Glassboro Road in order to access Mantua Avenue as Bankbridge Road currently intersects Glassboro Road approximately 500 feet south of Mantua Avenue. The construction of Bankbridge Boulevard as part of the Lakes of Bankbridge planned unit development (PUD) has created an opportunity to directly connect Bankbridge Road with Mantua Avenue (something envisioned before the PUD's rights expired). Accordingly, a short connector road is envisioned that would split off from the current roadway alignment approximately one-half mile west of Tanyard Road and join up with the existing end of Bankbridge Boulevard, thus providing a seamless connection from Delsea Drive all the way to Mantua Pike. This road segment should be constructed as development occurs on the parcel, or if acquired as an expansion of the Deptford Soccer Complex, as part of a municipal capital improvement project. Similarly as the Cross Town Connector, the right-of-way would need to be acquired separately through subdivision to avoid conflicts with state Green Acres regulations should state funds be used or sought.

Five Points Bypass

The Five Points intersection, formed by the junction of Route 41, Route 47, Blackwood-Barnsboro Road, and Egg Harbor Road, is one of the more congested and complicated intersections in the Township. The Five Points South Redevelopment Plan requires the

construction of a new roadway that would bypass the intersection completely and provide improved connectivity between the major roadways in this portion of the Township. It is envisioned that the roadway would begin at Route 41 and then proceed in a southwesterly direction and intersect Route 47 (Delsea Drive) before ending at Blackwood-Barnsboro Road approximately $\frac{1}{4}$ mile southwest of the existing Five Points intersection. As part of this new roadway it is also envisioned that International Avenue, which currently ends in a cul-de-sac, would be extended to meet Delsea Drive and the proposed Five Points by-pass.

Roberts Avenue, Harris Drive, and Eagle Way Extensions

Roberts Avenue connects the end of Melvina Road with the western portions of McKee Avenue and Little Drive before ending as a stub at the southern edge of the developed lots on the south side of Little Drive. The proposed extension of Roberts Avenue southward to connect with an extended Harris Drive and Eagle Way would increase connectivity for the residents who live on Melvina Road, McKee Avenue, and Little Drive, as well as to the commercial establishments along Harris Drive and Eagle Way, via the intersection of Hurfville Road and Eagle Way. This intersection is signalized and though somewhat circuitous for residents, would allow for safe left hand turns northward. During the end of year holiday time, Rt. 41 is severely congested as it backs up at the signal at Deptford Center Road.

Fasola Park Drive South/Fox Run Road Bypass

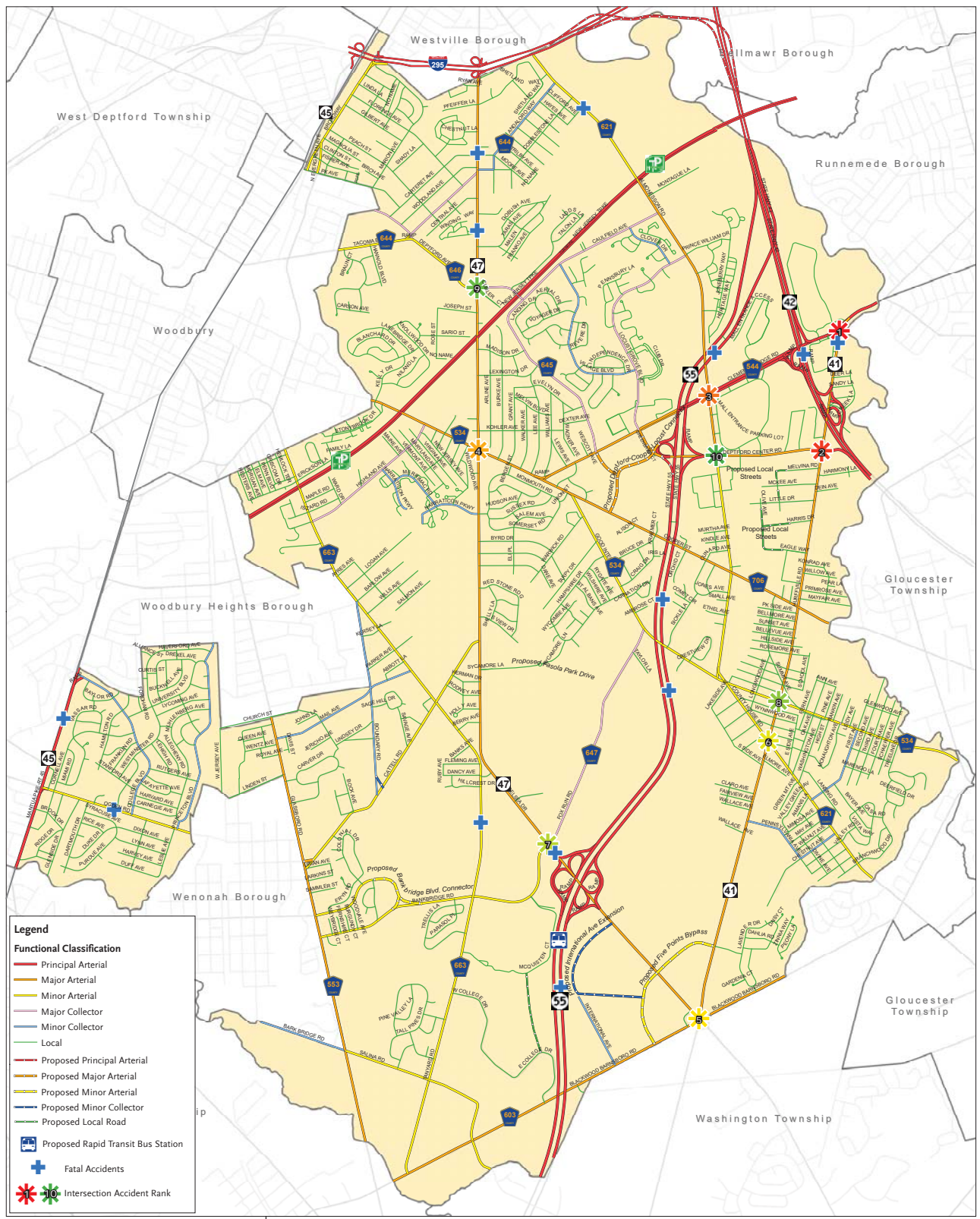
Much of Deptford's recent multifamily development along major roads has been concentrated on shallow lots, have only one or two access points, and/or have a closed street network that precludes future connectivity to adjacent properties. The area south of Fasola Park and Deptford High School represents one of the last large areas of undeveloped land in Deptford. If this area is developed in a similar pattern, then connectivity will be restricted, the center of this area will have limited development potential, and traffic from new developments will be funneled at concentrated points onto Delsea Drive and Fox Run Road, thus increasing congestion on these streets. This proposed route would extend a street south to Delsea Drive from the proposed Fasola Park Drive, thereby increasing connectivity between current and future development in the area. The construction of this route along with the proposed Fasola Park Drive, will create a complete bypass of Fox Run Road via this route, Sycamore Lane, and Hampshire Drive.

SUMMARY AND RECOMMENDATIONS

Improving the ability of people and goods to be moved safely in and through the Township is an important goal of the Master Plan, but it is also tempered by the desire to preserve and enhance the scenic beauty of the street. It is clear that government cannot build enough road capacity to satisfy the demand that exists, nor is this sound policy for a safe, attractive, equitable, and livable community. Congestion will remain but through incremental physical improvements, adverse effects on the fabric of the community can be minimized. Developing

the pedestrian and bicycle network can provide an important alternative to motorized transportation and there are areas where Deptford can make substantial progress. Adopting the Complete Streets approach can benefit all road users, regardless of how they must or choose to travel. The importance of pedestrian and bicycle planning is magnified in Deptford given its regional retail destinations that attract shoppers from across the income spectrum and the large and typically low-wage workforce necessary to operate such businesses. The following recommendations are made in the Circulation Element and are depicted on the Circulation Plan as appropriate:

- 1) Roadway Classifications. As depicted on the Circulation Plan.
- 2) Complete Streets. As described in the Complete Streets and Additional Complete Streets Recommendations sections.
- 3) Bicycle Routes. As depicted on the Bicycle Routes map and described in the Bicycle Facilities section.
- 4) Stream Corridor Trail System. The Township should undertake a study of the feasibility of establishing a trail network along stream and tributary corridors with pedestrian connections between separated neighborhoods.
- 5) Bus Rapid Transit. The Township should continue its support of the Bus Rapid Transit System proposed for Rt. 55.
- 6) New Road Segments. As depicted on the Circulation Plan.
- 7) Traffic Calming. To be instituted as a revision to the Unified Development Ordinance and the Capital Improvement Program. As the Plan does not contain a complete list of traffic calming measures, additional methods may be considered where appropriate. Traffic calming efforts should be considered as a component of the Township's Complete Streets planning.



Legend

Functional Classification

- Principal Arterial
- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local
- Proposed Principal Arterial
- Proposed Major Arterial
- Proposed Minor Arterial
- Proposed Minor Collector
- Proposed Local Road
- Proposed Rapid Transit Bus Station
- Fatal Accidents
- Intersection Accident Rank



Clarke Caton Hintz

- Architecture
- Planning
- Landscape Architecture

Circulation Plan

and Vehicle Crashes and Hotspots (2010-2014)

LOCATION:
Deptford Township, Gloucester County, NJ

DATE:
January 11, 2017

LAND USE PLAN ELEMENT

INTRODUCTION

The Land Use Plan Element seeks to promote the goals and objectives of the Master Plan for the conservation, development and redevelopment of Deptford. The Land Use Plan Element synthesizes the policies and recommendations found in the other elements and statements in this document. The element is designed to encourage compatible land uses, the reuse of existing buildings for new purposes, the restriction of development on environmentally sensitive lands and the careful management of growth on the remaining undeveloped land in the municipality.

The Master Plan and specifically the Land Use Plan Element provide the policies for the regulation of land use through the zoning ordinance and other land development ordinances. Land use classifications, found in this element, supply the rationale for various zoning regulations. The Land Use Plan, found at the end of this document, supports the zoning map by designating the use of land in specific areas of the municipality.

The document continues with an analysis of land as it is used today, major issues in land use and the establishment of land use categories as a means of addressing these issues. The Land Use Plan Element is expected to be implemented mainly through the instruments of private capital and land ownership, guided by the policies and recommendations in this document.

EXISTING LAND USE

LAND USE CATEGORIES

This section of the element describes how land is currently being used in the Township in contrast to how it is regulated. Analyzing existing patterns of land use is a necessary first step in determining how well current zoning is implementing the goals and objectives of the Master Plan and where changes might be required to improve this implementation. Accordingly, a map of existing land use within the Township has been created utilizing property tax records, aerial photography and data from the NJ Geographical Information Network with selective field investigation. The existing land use plan geographically divides Deptford into twelve different land use categories. The existing land use categories are described below:

SINGLE/TWO FAMILY RESIDENTIAL – This category consists of single and two-family housing occupied by one or two households. Single family detached residential uses make up the large majority of this category. The highest concentrations of single family residential areas are in the northern and eastern areas of the Township, as well as in Oak Valley/Pine Acres. This category occupies 29.9% of total acreage.

MULTI-FAMILY RESIDENTIAL – This category comprises townhouses (single family attached residences), and apartments (multi-family housing developments such as garden apartments). This category comprises 2.5% of the land area in the Township. Neighborhoods of this type are primarily clustered in Westville Grove and the Locust Grove and Narraticon planned unit developments.

COMMERCIAL/OFFICE – This category includes retail sales and services such as stores, restaurants and entertainment. It comprises services provided to households and businesses. Automotive services, including repair, fueling and items for use in automobiles are also part of this land use classification. The Commercial/Office category contains professional, business, and general administrative offices. However, where offices are operated as part of a distribution or manufacturing concern, they have been placed in the Industrial category. Deptford's significant amount of retail and commercial land uses are centered on the Deptford Mall area in the northeast section of the Township and run along the major corridors of Hurffville Road, Cooper Street, and Delsea Drive. While Deptford is known in the region for its concentration of retail sales, this use plus offices only constitutes for 8.5% of the area of the Township.

INDUSTRIAL – This category encompasses manufacturing, assembly, distribution, warehousing, research and development, with ancillary business offices. If the office use is the predominant use, it has been placed in the Office class, instead. The largest concentration of industrial uses is on the southerly end of Hurffville Road and along Blackwood-Barnsboro Road in the southeast corner of the municipality or along Broadway in the North Woodbury section of Deptford.

INSTITUTIONAL – The Institutional classification mainly refers to governmental uses but also includes semi-autonomous uses such as fire houses which operate independently. Accordingly, it includes municipal offices and facilities, religious uses, and schools. It also includes nonprofit community facilities, and recreational facilities that have a widespread local membership but are not public facilities. This category may be contrasted with Township-owned land used or intended for recreational or conservation purposes. In that circumstance it has been placed in the Open Space/Recreation category rather than in the Institutional class. Further, land owned by the municipality, but used for water supply, sewage treatment or storm water management has been placed in the Transportation/Utility classes.

AGRICULTURAL – Areas that are tilled and growing field crops have been included in this category. The agricultural category also includes areas utilized for raising livestock, mainly swine, and horse breeding and stabling. The largest concentrations of remaining agricultural land are found on Delsea Drive and in the southernmost sections of the Township in the general vicinity of Gloucester County College. The agricultural category does not include all lands that are farmland assessed, however, if the land area is close to the assessment minimum of five acres and is surrounded by other uses.

OPEN SPACE – Open space designates land held by the government or a non-profit land trust for active and passive recreation, for conservation purposes or if held as common open space by a homeowner’s association. Locust Grove has the largest concentration of common open space. Common open space may contain some stormwater management facilities if such use is ancillary to the primary use as open space. In Deptford, aside from the municipal government, the DEP and the Old Pine Farm Land Trust have significant open space land holdings. Large municipal open space areas include Fasola Park, the Montague Lane sports complex and the Deptford Soccer Complex. Open space constitutes the fourth largest land use category.

TRANSPORTATION/UTILITY – This category identifies land used for streets and highways, railroads, public water and sewerage facilities, and similar functions. This constitutes the third largest land use percentage in the municipality and is not surprising considering the number of limited access highways with wide rights-of-way that crisscross Deptford.

VACANT – Vacant land is open or wooded land with no discernible use and assessed for tax purposes as vacant land. This contrasts with land used for agriculture that may on inspection seem vacant, but is farmland assessed. It does not include land that is largely underutilized, such as the very deep lots on Delsea Drive where the eastern portions are generally unused. The property tax classification applies to the entire property, which means that the potential level of development is greater than the acreage reported in this section. Large areas of vacant land and land that is primarily wooded, but may have scattered buildings, are found generally in the southern half of Deptford. At 16.0% of the total land area is Deptford, it is the second largest of the land use classifications.

The Township contains approximately 11,224 acres, or 17.54 square miles. The acreage of the existing land use categories is depicted in the following table. A map depicting the location of the land use categories is found on page VIII-5.

Table VIII-1. Existing Land Use.

Existing Land Use	Acreage	% of Total Acreage
Single/Two Family Residential	3,288	29.3%
Multi-Family Residential	284	2.5%
Institutional	126	1.1%
Education	545	4.9%
Religious/Charitable	254	2.3%
Commercial/Office	949	8.5%
Manufacturing/Light Industrial	209	1.9%
Landfill	257	2.3%
Agricultural	647	5.8%
Open Space/Recreation	1,121	10.0%
Transportation/Utility	1,585	14.1%
Vacant	1,801	16.0%
Water	158	1.4%
Total	11,224	100.0%

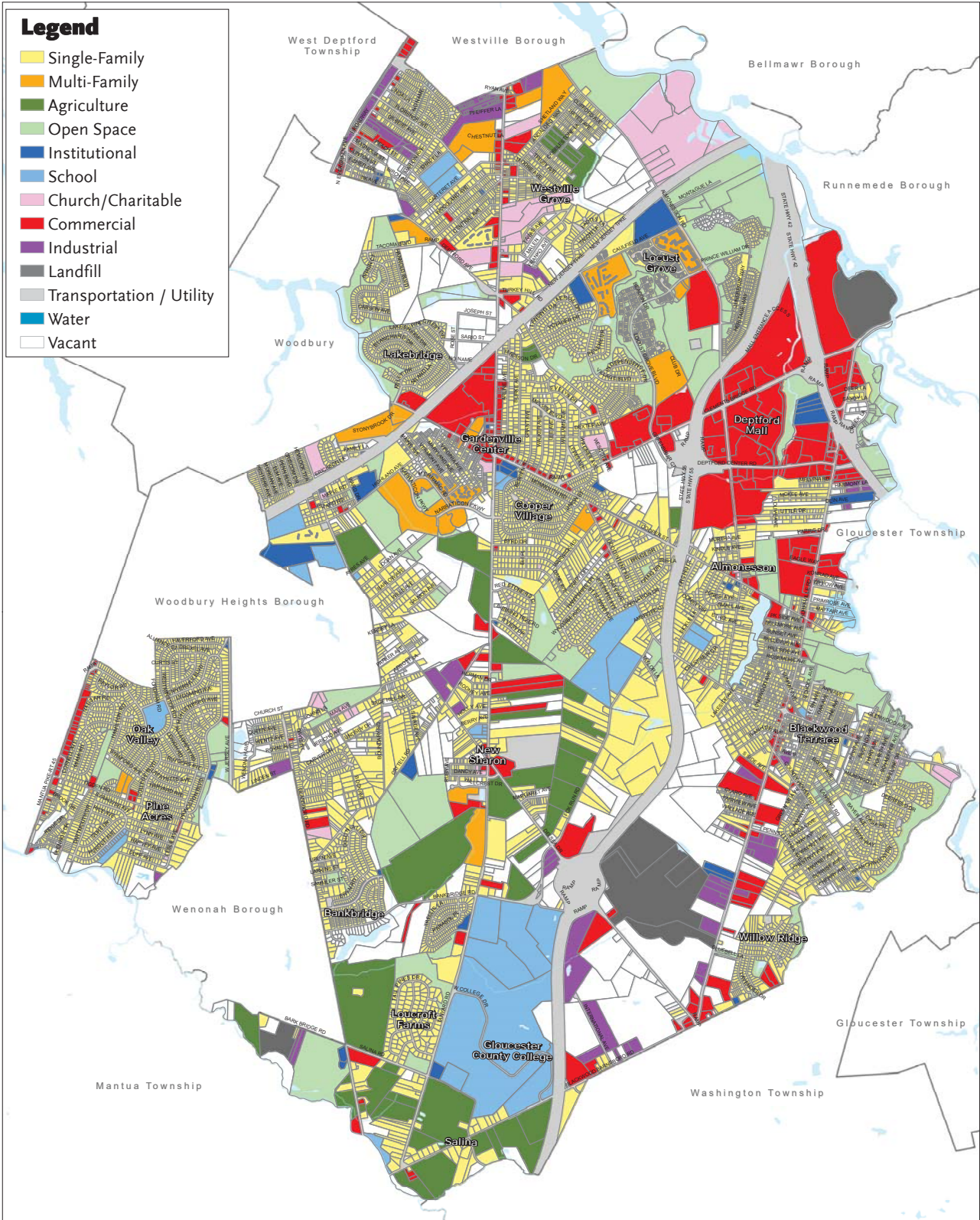
Sources: NJGIN Databases, Gloucester County Tax Assessment Records, Google Earth 2015 aerial photography and field investigation.

In the following section, population trends and their potential effects are discussed from a land use perspective.

POPULATION TRENDS AND RESIDENTIAL BUILD-OUT

Deptford Township has followed a similar growth pattern to other suburban towns in southern New Jersey. The Township remained as a largely rural, agricultural area with a small, stable population for the first 250 years of its history. After World War I, streets in Westville Grove, North Woodbury and Blackwood Terrace were created (at least on paper) and suburbanization started that was an outgrowth of more urban areas. It was after World War II, however, that suburbanization swept over Deptford, resulting in the addition of more than 19,000 residents between 1950 and 1970 (a large increase of 267%). It was fueled by Deptford's proximity to Philadelphia and to industrial jobs along the south Jersey waterfront that were within reasonable commuting distance as the highway system developed and expanded.⁵⁰

⁵⁰ - The Walt Whitman Bridge linking southern Philadelphia to Gloucester City opened in May 1957.



Legend

- Single-Family
- Multi-Family
- Agriculture
- Open Space
- Institutional
- School
- Church/Charitable
- Commercial
- Industrial
- Landfill
- Transportation / Utility
- Water
- Vacant



Clarke Caton Hintz ● ● ■
 Architecture
 Planning
 Landscape Architecture

GENERALIZED
Existing Land Use Plan

LOCATION: Deptford Township, Gloucester County, NJ | DATE: January 11, 2017

As the local and national economy worsened in the 1970's, however, Deptford entered a period of slight population decline. The combination of a rapid loss of industry in New Jersey and Philadelphia, the two Arab oil embargoes, and stagflation (a combination of low economic growth and high inflation) resulted in a depressed employment and housing market. These conditions yielded a net decrease of 95 residents between 1970 and 1990, a striking contrast to the previous 20 years. It would not be until after the housing market recovered from the real estate crash of the late 1980s and early 1990s that significant growth in the Township would resume. The real estate boom of the last decade can be viewed as a function of steady employment growth and new attention to land previously overlooked in earlier expansions.

The era of most rapid growth occurred in the 1950 to 1960 time period when not only was the rate of growth the highest, but also the absolute number of people added to the Township. The 1960 to 1970 decade also saw significant growth. The development that occurred in the 1990s occurred mostly in the latter half of the decade when the 1989 to 1993 recession in New Jersey gave way to economic growth in the mid-1990s. The increase in the population in the 1990's also represents unsatisfied demand for housing from the 1980's. The increase in the 2000's represents the build out of Locust Grove which started in the early 1970's. The absolute and percentage change from one decade to the next is chronicled in Table VIII-2, Population Change, 1930-2010.

Table VIII-2. Population Change, 1930 to 2010.

Year	Population	Population Change	% Population Change
1930	4,507	-	-
1940	4,738	231	5.13%
1950	7,304	2,566	54.16%
1960	17,878	10,574	144.77%
1970	24,232	6,354	35.54%
1980	23,473	-759	-3.13%
1990	24,137	664	2.83%
2000	26,763	2,626	10.88%
2010	30,561	3,798	14.92%
1930-2010		26,054	578.08%

Source: U.S. Bureau of the Census, Decennial Censuses

Growth in population is dependent on several factors. It is a function of the birth rate plus immigration minus deaths. At the local level, migration is the most significant factor and is directly influenced by the amount of developable land for housing, the economic climate for housing, the number of persons per household, the strength of the school system (for

families) and intangible factors that make up household decisions about the location and type of housing to occupy. These affect the rate of growth or decline and the eventual population of the Township.

The Township is within the nine county region of the Philadelphia metropolitan area that is analyzed by the Delaware Valley Regional Planning Commission. The Commission is the official Metropolitan Planning Organization that sets transportation planning policy in this area for the federal government. The Commission, as part of their responsibility, forecasts population and employment at the municipal level. Their forecast for Deptford is shown in Table VIII-3, which also compares it to Gloucester County as a whole. The County is forecast to grow in both population and employment at higher rates than the Township.

Another aspect of crafting the land use plan is to examine the effects of continued development in Deptford and what it might mean for its population. Deptford's population is virtually the same from the 2010 U.S. Census when 30,561 people were counted to an estimated 30,569 persons on July 1, 2015⁵¹. A difference of 8 people is well within the margin of error. While 290 certificates of occupancy for new houses were issued in Deptford from 2010-2015, inclusive, the average household size has likely lessened to offset the increase in the number of housing units and arrive at a constant population level. Deptford's population is still expected to grow, albeit slowly as indicated in the following table:

Table VIII-3. Population, Household, and Employment Projections, 2010 to 2040

	Deptford			Gloucester County		
	2010	2040	% Change	2010	2040	% Change
Population	30,561	36,088	18.1%	288,288	376,117	30.5%
Employment	15,077	17,804	18.1%	116,151	146,614	26.2%

Sources: DVRPC Regional, County, and Municipal Population Forecasts, 2010-2040. ADR 18-A, March 2013;
DVRPC Regional, County, and Municipal Employment Forecasts, 2010-2040. ADR 19, January 2013;

An increase of 5,527 people in 30 years equals a growth rate of only 0.55 percent per year which is considerably less than at any time since the 20-year stall in population growth in 1970-1990.

In 2012 a build-out analysis of the municipality's existing residential and mixed use (i.e., containing both residential and non-residential uses) zoning districts was undertaken. This analysis found the following characteristics pertaining to the existing residential zoning in Deptford:

⁵¹ <http://lwd.dol.state.nj.us/labor/lpa/dmograph/est/mcd/gloest.htm>, accessed October 25, 2016

Table VIII-4. Potential Housing Units in Residential and Mixed Use Zones, 2012.

Zoning District ¹	Developable Acres	Potential Housing Units	Density/Minimum Lot Size
AR-1	19.38	57	3 d.u. per acre/2,000 sf.
AR-2	38.88	289	4,500 sf.
AR-4	25.02	419	2,000 sf.
PVD-1	72.01	540	7.5 d.u. per acre
R-6	75.27	420	6,000 sf.
R-10	274.10	917	10,000 sf.
R-10A	103.59	346	10,000 sf.
R-20	23.19	38	20,000 sf.
R-40	878.01	735	40,000 sf.
RM-1	99.49	994	10 d.u. per acre
RM-2	7.03	70	10 d.u. per acre
Total	1,615.97	4,768	

Source: Deptford Township MOD IV database and CCH calculations

1 - The AR-3, PUD, R-6A, TC-1 and TC-2 districts have no additional residential development capacity.

2 - Combined farmland and vacant property classes excluding constrained land, except for the PVD-1, RM-1 and RM-2 lands which are based on gross acreage.

Note - d.u. = dwelling units

Table VIII-4, Potential Housing Units in Residential and Mixed Use Zones, 2012, indicates each district, its developable acres and potential housing units. This table was formulated utilizing the Township's tax parcel information cross-referenced with the property code classification from the County tax assessor's property record data. Next, using the GIS data layers from the NJ Department of Environmental Protection, environmentally sensitive, or developmentally constrained, lands were calculated. Environmentally sensitive lands include flood prone areas (the 100-year flood plain), freshwater and tidal wetlands (with an assumed upland buffer of 50 feet), riparian buffers (150 feet in width from the top of bank), and slopes in excess of 15% slope. For each zoning district the unconstrained land was calculated by subtracting environmentally sensitive land, except for the PVD-1, RM-1 and RM-2 (these are primarily townhouse and apartment districts). These three districts are governed by density limitations which are applied to the gross acreage of the parcel. Where the zone regulations use minimum lot sizes instead of density, the developable acres represent the unconstrained land from the Vacant and Agriculture property classes. The potential number of housing units was calculated by dividing the acreage by the minimum lot size plus 30% to account for roads, storm water management and geometric inefficiencies in the layout of subdivisions. For the districts using density limitations, the development acreage was multiplied by the allowed density.

As calculated, the residential and mixed use zoning districts in Deptford would allow for the development of an additional 4,768 units, more or less, as they are presently constituted. Deptford's average household size from the 2010 Census is 2.61 persons. In order to accommodate the expected growth in 2040, an additional 2,118 housing units will be required at the average household size. Consequently, the Township's existing zoning regulations can easily accommodate the anticipated growth in Deptford until 2040.

LAND USE ISSUES

Since the last master plan update, new problems and opportunities have arisen in Deptford. Major land use issues meriting detailed attention are discussed below.

NEIGHBORHOOD PRESERVATION

Neighborhood preservation policies and issues have risen in importance since the 2007 Master Plan. The Great Recession, which was only beginning in 2007, affected many neighborhoods throughout the state and specifically in Deptford. Deptford is part of a national trend in declining homeownership. The percentage of households in the United States that owned a home reached a high water mark of 69.1% in the first quarter of 2005 and stayed above 68% into 2008⁵². After that time the homeowner percentage dropped to 62.9% in the second quarter of 2016 – the lowest rate since the 1960's. The flip side of the lowered homeownership percentage is a rise in renters and of doubling up of households. Also, there is anecdotal evidence of a rise in the purchase of homes in Deptford for investment purposes by landlords.

Additionally, the Great Recession saw a significant increase in mortgage foreclosures which has particularly affected Deptford. During accelerated sub-prime mortgage lending in the early 2000's, households that previously were ineligible for home purchases were lent money to purchase dwellings. When an unexpected financial occurrence happened such as the loss of a job, mortgages went unpaid and homes were foreclosed upon by banks and other mortgage lenders. New Jersey retains the dubious distinction of being the national leader in the percentage of houses in foreclosure, even though it is 24% lower than in 2015⁵³. To some degree this is because of NJ consumer protection laws that require a court process for mortgage foreclosure to ensure that homeowners are treated fairly. This lengthened the process compared to other states without such protection. This process plus the relatively

⁵² - Residential Vacancies and Homeownership in the Second Quarter 2016, U.S. Census Bureau, July 28, 2016

⁵³ http://www.nj.com/news/index.ssf/2016/05/nj_remains_a_leader_in_a_very_undesireable_housing_category.html, accessed October 18, 2016

high cost of housing in New Jersey are the prime reasons for the state to have the highest percentage of homes in foreclosure over the past several years.

Five neighborhoods have borne the brunt of these external forces: Cooper Village, Country Club, Westville Grove, Westville Oaks and Woodbury Gardens. In a study undertaken by the Township, these five neighborhoods were found to have a combined pre-foreclosure (lack of mortgage payments for three months), foreclosure proceedings, bank auction or abandonment of about 6.4% of total dwellings. The number of dwellings in the five neighborhoods is 2,095, or 17.1% of the number in Deptford. New Jersey's average of these categories is about 4% of all housing units, so the five neighborhood's average of 6.4% is about 60% higher than the state as a whole and is cause for concern. Properties that become deteriorated and then blighted pose a significant threat to neighborhoods. Academic studies have shown that blighted property depresses the value of nearby property and can have a cascading effect where owners no longer invest in their property, whether or not it is owner-occupied or for rent. The neighborhoods were recently placed into areas in need of rehabilitation in order to utilize the tools available in the Local Redevelopment and Housing Law, including short-term tax abatement. All of these neighborhoods were either built in the post-WWII suburban expansion in Deptford or the majority of the housing was built in that time.

These neighborhoods are typically single family detached homes in a Cape Cod style. The needs and expectations among the home buying population have changed since the post-War period. Rarely do parents expect their children to share bedrooms, which was once common. Also, many people now prefer open plan floor plans where the living, dining and kitchen areas are a large room set off by dividers. Many houses of that era have single bathrooms that are undesirable by the large majority of potential homebuyers. These changing tastes mean that the number of people in the market for such houses is no longer very large and is shrinking, making homes difficult to sell except for the rental market.

From a land use perspective, one of the problems in the neighborhoods is a lack of land to expand and improve houses within the building envelope permitted by the zoning district. Impervious coverage may also be a strong limiting factor. A means of addressing the problem is by relaxing some of the yard and coverage requirements in districts with smaller lot sizes. As these have been built, the front yard is often the largest land area in which to add to the house. However, an addition to the front of the house has the greatest aesthetic effect on its attractiveness from the street. A poor design will detract from the house. One way to address this issue is to create public use architectural plans. If these plans are used, then the front yard setback requirements would be relaxed. Several different designs could be created, depending on the house style and desired additional space.

In addition to tweaking zoning regulations, continued investment by the municipality is important in maintaining a neighborhood's streets, sidewalks, street trees and parks. For

example, a program of urban forestry to encourage the planting of street and shade trees aids in the perception of neighborhood attractiveness.⁵⁴

AGE-RESTRICTED HOUSING

One major focus of the 2007 Master Plan was to establish appropriate locations for the different types of age-restricted housing being developed by the real estate and medical services industries. This support gave rise to the creation of four new age-restricted districts which were applied to existing age-restricted active living neighborhoods, as well as skilled nursing care facilities and assisted living. These districts also addressed the problem with the “senior independent living” use which was allowed as a free floating optional development in the R-40 and R-20 districts regardless of the property’s proximity to medical and social services, religious sites, shopping and transportation routes. This optional use was repealed in favor of establishing specific locations for age-restricted uses.

The last major part of Locust Grove, a 30-acre parcel on Almonesson Road, was vacant at the time of the 2007 Master Plan and was assigned a residential/medical land use category. In the implementation of this recommendation, the Unified Development Ordinance was amended to create the AR-4 district that allowed for a wide variety of age-restricted housing types as well as a relatively minor amount of professional office space intended for medical services. In early 2013, Township Council decided to expand the allowed medical component of the district which subsequently resulted in an application for development of the Nemours DuPont outpatient facility for pediatric services. Additional medical services are anticipated for the site that would not include any residential component. Consequently, the AR-4 district should be eliminated and a district for office uses substituted for this area. This office designation could also be applied across the street to the two small outparcels of the age-restricted neighborhood, Heritage Village, which is consistent with its 1998 planned unit development approval and the Nemours DuPont facility.

SINGLE-FAMILY DETACHED HOUSING

Deptford Township’s largest land use category is single family detached housing which occupies in excess of 3,500 acres, or 31.3% of its total land area. By and large, single family detached houses have been built on lots ranging in size from 4,000 to 20,000 square feet in area. Little modern housing for the construction of executive housing has occurred in Deptford since the 1990’s. Because of the ratio of land value to house price and the need to accommodate the larger footprint of executive homes, such housing is best suited to the R-1 and R-2 land use categories with a density no greater than two units to the acre.

⁵⁴ - See Conservation Element for additional discussion on urban forestry.

Deptford has an imbalance of smaller lots in comparison to larger lots suitable for residential uses. This was determined through an analysis of the Township's property records database which was sorted for all Class 2 lots (those developed with single family detached dwellings). All Class 2 lots with no acreage figures in the database were removed from the analysis, leaving 5,443 lots. The lot size that defines the 25th percentile in Deptford is 6,600 sf., the 50th percentile is 8,854 sf. and the 75th percentile is 12,502 sf. Clearly, Deptford has a plethora of small lots containing single family detached residences. The median size lot size of 8,854 sf. – about one-fifth of an acre – is indicative of ample smaller single family housing in the municipality. Furthermore, there remain many vacant lots in neighborhoods with small lot sizes that may be developed with new housing.

Low density lots are also indicated where there are attractive physical characteristics or environmentally sensitive features because of the ability to marry successful land development with the preservation of natural features on individual lots, such as steep slopes, copses, and water courses. This is due to the fact that smaller parcels require grading the entire lot to create positive drainage away from the foundation and towards the street. This grading almost always destroys the natural features of a site. This is most obvious in the loss of woodland in the Township. With more than a quarter of the Township in woodland, lower densities in appropriate locations allow the retention of groves and copses in housing development and avoidance of steep slopes. This analysis suggests that the area around Monongahela Lake⁵⁵ south to the Maple Ridge Golf Course and east to Tanyard Road remain or become a low density residential land use. In addition, a restricted form of residential clustering could also be used to preserve a site's natural features by placing such features in a preserved area. At one time the Unified Development Ordinance contained a clustering option in the R-20 and R-40 districts. However, as structured, the open space created by the clustering provisions would have become open space in any event because they were unbuildable due to environmentally constrained land. A differently written cluster ordinance could overcome the limitations of the prior zoning districts. With a differently drawn R-20 cluster, for example, it may be feasible to revise the R-20A district – which allows narrow frontage lots combined with greater lot depth – to a more conventional frontage to depth ratio.

RETAIL USES

Deptford's land use policy has had a strong emphasis on retail development. The Deptford Mall has been the main catalyst for Deptford becoming a regional shopping destination. The Deptford Mall, one of the super-regional centers, opened in August 1975, and currently has 1.04 million sf. of gross leasable area (GLA)⁵⁶ and almost 1.2 million sf. in total area. This strategy has been successful in creating employment and providing most of the non-

⁵⁵ - Also known as Bankbridge Lake.

⁵⁶ - <http://www.macerich.com/Leasing/Property/208>, accessed April 19, 2016

residential tax base to balance with the residential districts in the municipality. The Deptford Mall and surrounding area is home to more than 3 million sf. of retail space. This retail concentration represents the municipality's largest non-residential property tax ratable. Not only is there significant competition among retailers in the Township, but the competition with on-line retailing has also intensified since the prior Master Plan. The recession, which saw declines in spending by consumers and has only recently rebounded, hastened these trends. Vacancies in some of the secondary shopping centers around the Deptford Mall occurred, some reaching as high as 54%. The nine largest shopping centers are listed in Table VIII-5, following.

Table VIII-5. Largest Deptford Shopping Centers - Assessed Value/Sf. 2015

Shopping Center Name	Lease Area (SF)	Assessed Value/ Lease SF (\$)
Deptford Mall	1,196,442	186.59
Deptford Town Center	100,259	176.45
Locust Grove	49,470	147.95
Forman Mills	108,500	144.37
Court at Deptford II	143,763	123.50
Deptford Landing	487,218	123.05
Plaza at Deptford	224,940	94.07
Court at Deptford I	350,414	84.19
Deptford Crossing	269,329	67.48
Total/Average	2,930,329	\$140.07

Source: Gloucester County tax assessment records; shopping center web sites; development applications.

To create a better toolbox for assisting the owners with the largest vacancies – the Plaza at Deptford and Deptford Crossing – the properties were made areas in need of redevelopment by Township Council on June 27, 2016.

Turning to the mall itself, it is in competition regionally with other similar centers. For example, the Gloucester Premium Outlets shopping center in Gloucester Township opened in August 2015 and has had an effect on sales in Deptford. Located on Rt. 42 about four miles from the Deptford Mall, it benefits by being a new shopping experience and a concentration of luxury brand names. Furthermore, other mall shopping centers have invested significant money in upgrading their appearance and in creating more freestanding buildings on their periphery with a particular emphasis on higher quality restaurants. In at least one instance, a large surface parking lot was replaced with a multi-story parking garage. At the same time, the municipality is looking for improved access for vehicles and pedestrians, as well as

aesthetic improvements to the streetscape and internal parking lots. The types of aesthetic improvements sought are discussed in the Community Design Sub-Element.

Anchor tenants for shopping centers are among those most affected by the increase in competition and on-line sales. Typically, these are full line department stores in enclosed shopping centers, grocery stores and big box or “category killer” stores in community-sized and neighborhood shopping centers. National full line department stores, such as Macy’s, JC Penney and regional stores such as Boscov’s have found that they need a fully integrated on-line presence with their physical locations in order to compete. One of the reasons for the Plaza at Deptford’s decline was the loss of the Pathmark grocery store as a tenant when two Walmart Supercenters (a type of hypermarket) opened within two miles.

Potential new uses to fill the void left when anchor tenants leave are value retailers, entertainment and restaurants. Of these two, entertainment and restaurants have the ability to create a sum greater than the total of its parts. Deptford currently functions as a retail destination. This could be strengthened by encouraging more entertainment uses to give people in the region more reasons to visit Deptford. Restaurants, as the dollar amount spent on eating out now exceeds that spent on food in the home, remain a growth industry. The main impediment is that most restaurants – aside from family-oriented chains – need liquor licenses which are not to be found in Deptford. A number of entertainment uses also need liquor licenses such as nightclubs. Two possibilities exist for generating more liquor licenses. One is associated with hotels. If a hotel has more than 100 rooms, it is permitted to sell alcohol. The license can also extend to restaurants on pad sites in front of hotels provided the two uses have a common management structure. Hotels are also beneficial in that the municipality receives a room tax revenue of 3%. The second means is through a concessionaire’s license where land owned by the municipality is leased to an operator to provide food and beverage services. An example of this concept is the Cooper House, located on N. Park Drive in Pennsauken overlooking the rowing venue on the Cooper River. It is recommended that these two possibilities be explored more thoroughly and that appropriate locations be designated in the zoning regulations.

The regional commercial category in the land use plan encompasses the Deptford Mall and most of the surrounding retail development. In the 2007 Land Use Plan, the area south of the Staples Plaza was classified as Highway Commercial. In the interim, it has become clear that the small lots fronting on Rt. 41 north of this area should also be placed in the Highway Commercial category. These remain in diverse ownership with direct access to the state highway and are unlikely to be consolidated into larger development parcels as anticipated in the 2002 Master Plan. Since the zoning regulations follow the land use plan, they are designed for much larger lots. District bulk regulations should be drafted that account for the small lots involved and uses reviewed to discourage those that are not able to be accommodated on the parcels.

OFFICE AND MEDICAL USES

The policy to diversify the non-residential tax base away from its reliance on retail sales and services established in the 2007 Master Plan has had modest success. This policy is proposed to continue in this land use plan element through both the UDO and for some of the redevelopment areas that have been established, notably the two Clements Bridge Road Redevelopment Areas. One trend of note which could also aid ailing shopping centers is the rise of medical uses at malls and other retail venues. The same convenience that steers shoppers toward larger shopping centers where there is a concentration of stores is also becoming attractive to medical providers seeking new patients in a more fiercely competitive marketplace. There is also a trend towards having office hours beyond the typical 9 to 5 time period in order to accommodate patient preferences which fits into the shopping center model.

MIXED USE

In 2007, the market for mixed use buildings where there is a non-residential use on the first floor and apartments above, began appearing in locations with good access to the transportation system and in or near a downtown, even a suburban downtown. Buildings of this type were viewed by developers and governmental officials as a means to address a number of issues, such as control of traffic congestion, support for downtown businesses nearby, and even as a means to address affordable housing obligations. As events have unfolded, this form of building has resulted in only a few examples in South Jersey, such as the GG Green Building adaptive reuse construction in Woodbury and the Lumberyard development in Collingswood. Today, financing for this form of development is more difficult than in the pre-recession days. The demand for this type of housing also remains unproven in the South Jersey marketplace and seems most successful around major transit stops which do not yet exist in Deptford. Consequently, the Mixed Use 3 land use category will be removed and the land use policy returned to a fully non-residential land use classification. This district had been applied to the area of the Clements Bridge Road (I) Redevelopment Area, and approved retail, movie theater and hotel sites.

One area to watch in the next ten years is the Five Points area where a bus rapid transit terminus has been proposed on Rt. 55. Most of this part of Deptford is in the Five Points Redevelopment Area. If there is to be a location to create a new node of population and associated development, this area is the most promising because significant portions are vacant, it has a highway interchange which would allow for multi-modal transportation, and is large enough to accommodate varied uses.

INDUSTRIAL AREAS

Deptford's industrial areas are clustered in three locations: On Broadway from Magnolia north to I-295, on Hurffville Road (Rt. 41) from approximately the Five Points intersection north to Good Intent Road and on Blackwood-Barnsboro Road around International Drive. On Broadway, the west side adjacent to the railroad tracks is a storage yard for Cornell Crane and Steel, a steel erection firm, and a recently expanded PSE&G electrical substation. The east side is a mixture of small businesses, scattered single family detached uses, Cornell's fabrication shop and construction yard, and the EP Henry concrete paver plant.

On Hurffville Road, the uses include construction company yards, solid waste management companies, marine, truck, and automobile repair and renting, metal recycling, and similar uses. However, like Broadway, this stretch of Hurffville Road contains single family detached houses that are concentrated on Claro, Fairview and Wallace Avenues. The highway also includes the Township's public works facility, South Jersey Federal Credit Union, a commercial recreation use and vacant land. Vacant land on the west side is mostly constrained by environmentally sensitive land. Opportunities for development are more prevalent on the east side.

Blackwood-Barnsboro Road marks the municipal boundary with Washington Township. The northwest side of the road, which is Deptford, is almost entirely industrial except for a handful of single family detached houses. Housing is more prevalent on the Washington Township side. Industrial uses include contractors shops and storage yards, trucking and vehicle storage.

The zoning districts applying to these three areas are Light Industrial I, Light Industrial 2 and Flex Space. The districts should be revised to more closely match the existing land uses – which have not appreciably changed since the major revisions on land use policy brought into effect by the 1989 Master Plan. The Flex Space district was designed in response to the successful flex space districts in West Deptford found flanking I-295. However, the circumstances in Deptford are considerably different and the available land much less than what existed in West Deptford at the time. Accordingly, a revisitation of the zoning for the Flex Space District in particular and more generally with the other districts should take place following the adoption of this document.

REDEVELOPMENT AREAS

Like many municipalities in the state, Deptford has sought to take a more active role in reducing blighting influences through the establishment of a number of redevelopment areas. Each of these areas is described in turn, along with its relationship to land use policy.

Five Points Redevelopment Area

At 534 acres, the Five Points Redevelopment Area is the largest of those designated. It has been divided into three sections: North, Central and South. Township Council designated the areas first in 2007 and then again on October 8, 2008 after further investigation was undertaken by the Planning Board. The designation was challenged by the landowners. Eventually the parties entered into settlements that were approved by the Township Council. The South area settlement was approved in March 2013 and the North and Central areas in May 2013. Redevelopment Plans have been prepared for the three areas. The North Area allows for some residential development but is primarily expected to be industrial in nature. The Central Area, which includes the Kinsley Landfill, is slated for industrial and renewable energy purposes. On top of the landfill, PSE&G constructed a solar energy field and the landfill decomposition generates methane which is burned for electrical generation purposes by the land owner. The North area has not seen any development activity. The South area, which is located on both sides of Rt. 47, allows for retail development, hotel, and a business park. In the southernmost area, the redevelopment plan permits up to 400 multi-family housing units.

Big Timber Creek Redevelopment Area

A portion of Deptford is located on the east side of Big Timber Creek and has no access from the rest of the Township. Surrounded by Bellmawr, the property has been subject to fill and grading activities to cap the several historic landfills that are located there. The redevelopment area was established in November 2008. Once the landowner develops a proposed plan, this will be evaluated and a redevelopment plan crafted for the area.

Clements Bridge Road (I) Redevelopment Area

A 30+ acre tract located on the south side of Clements Bridge Road and west of Greenbriar Court, it was established in April 2013. A redevelopment plan was developed for the tract and adopted by Township Council on November 18, 2013 and subsequently revised on August 1, 2016. This site is proposed primarily for medical services but may also be developed for specialty and convenience retail along the frontage. This parcel is important for the construction of a planned portion of Deptford's road network that would create a new connection between Cooper Street and Clements Bride Road.

Rowan College at Gloucester County

The educational offerings at the former Gloucester County College have greatly expanded with its recent affiliation with Rowan University in Glassboro. A 47-acre portion of the campus, the redevelopment area will enable public-private partnerships to expand the buildings on campus and provide new opportunities for internships and co-ops with businesses. The most

recent of the designations, it was established by Township Council on September 12, 2016. A redevelopment plan is in process with the College.

SIGN CONTROL

The sign ordinance section of the Unified Development Ordinance places reasonable restrictions on the placement of commercial signs in the Township. Since Deptford is a retail center, commercial signs are a necessity for the traveling public for identifying the location of businesses or shopping centers where the businesses are tenants. Clear and legible signs inform the motorist or the pedestrian in advance of the turning movements required to access a site. However, signs placed close together and where too much information is displayed can have the opposite desired effect by making signs illegible. Furthermore, sign clutter detracts from the visual attractiveness of Deptford. For most non-residential land uses, the construction of new establishments or substantial refurbishment of a shopping center triggers a requirement to undertake landscaping improvements along the street frontage. Considerable time and effort have been undertaken by the Township to bring these “streetscape” elements to Deptford and improve its aesthetic quality. In addition, the Community Design Sub-Element following this Land Use Plan Element which was first adopted in the 2007 Master Plan, demonstrates the Township’s commitment to excellence in the public appearance of its commercial centers and is a design guide to commercial development in Deptford. As competition for retail sales intensifies, Deptford needs to distinguish itself from other municipalities and create an aesthetically pleasing prospect. For Deptford, which had a reputation for pig farms and landfills over the years, improving its public appearance and hence its public perception is critical to capturing retail sales.

Sign control must always be tempered with the right of free expression, as the Township’s 2010 sign ordinance manages in its provisions.

The Township’s ordinance relates sign sizes to speed limits in accordance with scientific study. In this manner, legibility can be maintained while at the same time the unattractive nature of visual clutter for excessive signage is eliminated.

Variable Message Signs

Technological advances have led to numerous types of electronic signs, including the scrolling message sign, LED billboards and video signs as well as electro-mechanical signs such as roller-bars (signs like a conveyor belt), and tri-variate (three-sided slatted signs). The impact of variable message signs on drivers’ attention has been the focal point of a number of studies.

The Wisconsin Department of Transportation (WDOT) completed a study in 1994 on variable message signs. The study analyzed crash data along the eastbound and westbound segments of Interstate 94 (I-94) near Milwaukee, Wisconsin. The study looked at crash data three years

prior to the installation and operation of a digital variable message sign on I-94 and compared it to crash data three years following the installation of the sign. The sign changed on average 12 frames per minute or approximately one frame every five seconds. Specifically, the authors looked at side-swipe and rear-end collisions, as they identified them as being indicative of driver inattention or distraction. The results of the WDOT study were telling. The data for the eastbound route revealed that:

- Crashes increased by 43% in the first year following the installation and operation of the sign;
- Crashes increased by 36% during the three years following the installation and operation of the sign;
- In the first year after the installation and operation of the sign, side swipe crashes increased by 80% and rear end crashes increased by 60%; and
- During the three-year period after the installation and operation of the sign, side swipe crashes increased by 8% and rear end crashes increased by 21%⁵⁷.

The number of potential distracting influences on motorists has increased since the advent of the digital age. They include mobile phones with talking, texting and internet downloads; navigation tools, driver interface diagnostic tools, and music and audio equipment – and these are just internal to the vehicle. Adding additional external stimuli such as variable message signs to these internal distractions will logically increase the visual and other noise in the environment to the detriment of driver attention on the road. As study has noted, the distraction of drivers from the driving task at hand for longer than 0.75 seconds is associated with greater crashes because this is the minimum amount of time needed for drivers to perceive and then react in an appropriate manner to visual clues in the environment. This period of time is longer for older drivers and as the population ages, will become an increasing public safety concern.

Independent scientific study has demonstrated the effects of signs on motorists' behavior and consequent rise in crashes and near crashes when the sign includes movement whether electronically or electro-mechanically induced. The studies support the desirability of banning signs with movement. For conventional signs they also support limiting the amount of information included on a sign. Signs with greater information take longer to read and comprehend. By limiting the amount of information, the sign will be able to convey its message to the motorist in a safe manner. In summary, the Township should continue its

⁵⁷ - Wisconsin Department of Transportation District 2, Freeway Operations Unit (1994). *Milwaukee County Stadium Variable Message Sign Study: Impacts of an Advertising Variable Message Sign on Freeway Traffic*.

ban on variable messages signs and should seek to eliminate the small number of such signs in Deptford that were established beforehand.

LAND USE CATEGORIES

The land use categories represent a set of recommendations for the use and development of property in Deptford and should be viewed as providing the planning basis underpinning the municipality's various zoning districts. The land use categories are broadly drawn and are intended to set overall land use policy for the Township. The land use categories set ranges for residential development and consequently may support more than one zoning district.

In order to meet the new goals and objectives of this Master Plan and to address the major land use issues identified in the beginning of the element, the Land Use Plan distinguishes land uses differently than the 1989 Plan (the last major master plan study). There is greater emphasis on mixed use development that combines various forms of non-residential and residential land uses in one area. This may be considered an evolution of the planned unit development concept by allowing mixed use buildings.

The land use categories for Deptford are described below and are graphically depicted on the Land Use Plan found at the end of this document.

RESIDENTIAL CLASSIFICATIONS

The residential districts in the Township consist mostly of single family detached houses at varying densities. In all but the multi-family districts, small scale open space and religious uses are common, typically on lots of less than one acre. These uses are appropriate in the context of residential neighborhoods. As one means to implement the Township's plan for affordable housing, each district also allows for two-family homes at roughly twice the density of the overall district. Each two-family house occupies the land area of a single family dwelling. Also commonly found are uses for utility purposes, such as pumping stations, substations, and storm water management facilities. This district may also include open space uses, but if they are of a significant size, such land has been placed in the Open Space district. These latter uses are necessary complements to all residential districts. Specific residential land use categories include:

R-1, AGRICULTURE RESIDENTIAL

The R-1 district contains most of the Township's agricultural lands which are concentrated north of the Route 47 and Route 55 interchange, on Bankbridge Road and south of Salina Road. Much of this land lacks public water and sewer infrastructure and road access. Residential uses are intended for single family detached dwellings on lots in excess of 40,000 sf. unless in cluster development.

R-2, RESIDENTIAL SFD, 1-2 UNITS PER ACRE

An intermediate density residential district for single family detached houses at densities ranging from one to two units per acre. The districts are characterized by existing neighborhoods with relatively large lots and gradual infill development, or in locations where there is a logical transition between the R-1 and R-3 districts.

R-3, RESIDENTIAL SFD, 2-4 UNITS PER ACRE

This land use category constitutes the majority of Deptford's post-war single family detached residential development – commonly built on quarter acre lots. It has also been applied to former planned unit development districts with similar densities. The land use category is also suitable for neighborhoods that include land available for infill residential development and the existing pattern of house construction is in the density range of 2-4 units per acre.

R-4, RESIDENTIAL SFD, 4-7 UNITS PER ACRE

The highest density of the single family detached districts, this category is intended for the oldest neighborhoods in the municipality where there is a substantial variation in lot size. Many areas include vacant lots that could be developed singly or through the minor subdivision process. This category is intended to control such development to avoid overcrowding of existing neighborhoods, especially since most of the rights-of-way serving them are substandard in width.

MF, MULTIFAMILY

The multifamily category includes the unrestricted (by age) apartments and townhouses in the municipality. The intended density is to remain at 4 to 12 units per acre, depending on the neighborhood context of the individual parcels. Residential development within redevelopment areas may be at higher densities if it achieves other goals and objectives in the redevelopment plan. Existing apartment complexes may also exceed this density, but have been included in this category based on their use characteristics. Where the MF land use category has been applied to vacant land, the parcels are proposed either for 100% affordable dwellings or as inclusionary residential development where a portion of the total number of dwellings is intended for affordable housing to meet the Township's court-mandated obligation.

AR-1, AGE-RESTRICTED 1

The AR-1 land use category is intended for age-restricted development on small lots earmarked for single family detached residences, where the house design is single story or story-and-a-half in height. In certain locations, age-restricted townhouse or apartment uses would be appropriate where it is logically related to transportation and services. Densities of up to six

units per acre are contemplated. More than one zoning district will be necessary to address this land use category. This designation has been extended to similar existing uses and one vacant site. The last two remaining sections of Heritage Village on Almonesson Road have been included in this designation, as well as the Rizzuto property on Tanyard Road, next to the Barlow Tract.

AR-2, RESIDENTIAL MEDICAL

AR-2 is distinguished from AR-1 by the combination of uses allowed and the more intense use of the land found in residential/medical facilities. A number of new uses have arisen over the past two decades that combine housing with personal and medical services. This combination ranges from maintenance services, to assistance with the daily tasks of life to fully staffed 24-hour nursing care. This classification is intended to allow comprehensive personal care and assisted living facilities, nursing care and skilled nursing care, rehabilitation centers and similar combination of uses. Also included in this category are the two mid-rise residential buildings operated by the Gloucester County Housing Authority on Pop Moylan Boulevard, even though the level of assistance they provide is more akin to regular apartment buildings, due to their size and higher density. In addition, medical office uses would be permitted as part of a comprehensively designed project to provide a continuum of services to residents that are within the quasi-commercial uses of this category. More than one zoning district is required to address this land use classification.

MIXED USE CLASSIFICATIONS

PUD, PLANNED UNIT DEVELOPMENT

The planned unit development designation has been retained for the Narraticon community. A mixture of residential uses are permitted ranging from single family detached and attached dwellings to garden apartments up to a net density of 5 units per acre. In addition, personal sales and services, low intensity retail uses and institutional uses would continue to be permitted on the frontage lots on the state highway.

MX-1, MIXED USE I

The MX-1 districts are linear and front on either Rt. 41 or Rt. 47 in the areas of the Township that have been primarily developed as residential neighborhoods. The MX-1 district thus functions as an intermediate land use category between the highway and residential neighborhoods that begin one lot off of the highway. The lack of depth to the lots limits the intensity of uses that can be accommodated on the land. The districts have been developed with a combination of residential and non-residential uses – conversion of residential buildings to non-residential uses has been common. Previously, residential uses were limited to single family detached uses. It is proposed that residential units above first floor

commercial uses would be added to the allowed mix of residential uses. Further, the introduction of floor area ratio limits is proposed to control the intensity of the use of lots. A floor area ratio of .15 to .25 is proposed, with the higher ratio intended for two-story buildings. Commercial uses are intended to be oriented towards retail and business services and personal sales, as opposed to highway-oriented uses. Due to a need for fueling stations and their historic location on the state highway system, these are intended to be allowed as conditional uses that restrict their intensity and size to larger lots. An examination of the bulk requirements in the zoning districts in the UDO should be undertaken in conjunction with the existing lot sizes and adjustments made as needed.

MX-2, MIXED USE 2

The MX-2 area is characterized by somewhat larger lots than found in the MX-1 category and is located on Rt. 45, Rt. 41 south of Elmore and north of the LI-3 district, and a small portion of Blackwood-Barnsboro Road where there is a cluster of non-residential uses situated across from industrial uses located in Washington Township. Floor area ratios of up to .25 are proposed. In addition to the uses contemplated for the MX-1 land use category noted above, wholesale sales and services of other commercial uses would be allocated to this land use category.

COMMERCIAL CLASSIFICATIONS

NC, NEIGHBORHOOD COMMERCIAL

The NC district is similar to the MX-1 and MX-2 districts in being intended for personal sales and services, convenience retail, and small professional offices, but differs from the mixed use districts by not permitting residential uses. As non-conforming uses, automobile services uses also tend to be found in the NC areas, but these are intended to remain non-conforming. A floor area ratio of .15 to .20 is proposed, consistent with one-story and small scale two-story development on small lots.

HC, HIGHWAY COMMERCIAL

In contrast to the Neighborhood Commercial land use category, the Highway Commercial classification provides for shopping centers and freestanding retail development on larger lots. Additionally, the HC classification is more oriented towards automobile uses compared to both the Neighborhood Commercial and Regional Commercial land use classifications. In that regard, the HC is more dependent on pass-by motor vehicle trips and less for destination shopping such as found in the Regional Commercial category. The allowed development would be intermediate between the Neighborhood Commercial and Regional Commercial intensities, with a floor area ratio between .20 and .30.

RC, REGIONAL COMMERCIAL

The Regional Commercial designation is centered on the Deptford Mall and includes the related secondary development constructed around it, as well as the land in the Bellmawr Waterfront Redevelopment Area. The large majority of the development is in shopping centers, as opposed to freestanding stores. The RC is also the focus of Deptford's hotel industry and national chain entertainment and restaurant uses. The next evolution of the Deptford Mall would likely require the construction of parking decks or garages, which would permit a higher floor area ratio of .40 to .60 at the Mall. Other development in the surrounding area would have a floor area ratio of up to .30, similar to the upper end of the HC district, except that hotels, which have a high floor area to parking demand proportion, would be permitted with floor area ratios up to .60.

O, OFFICE

The Office classification replaced a more retail oriented zoning district on Delsea Drive near Whispering Lakes park and the AR-4 zoning district on Almonesson Road. The office land use classification is also considered a suitable use as a transitional district next to single family residential uses and has been used to this effect is select locations as indicated on the land use plan. A floor area ratio of up to .25 is proposed.

INDUSTRIAL CLASSIFICATIONS**O-I, OFFICE-INDUSTRIAL**

This land use classification is intended for small business uses in multi-tenanted buildings that typically have a front office and a back distribution center. This category would also include locations for contractor offices and storage and personal or household storage. Minor assembly of components manufactured elsewhere would be allowed, but more intensive manufacturing is intended for the other industrial districts. A floor area ratio of up to .25, due to the typical one story nature of the building that house such uses, is proposed. A lower floor area ratio than more manufacturing uses is to offset the expected greater office component of such development.

ROM, RESEARCH, OFFICE & MANUFACTURING

This district is proposed for large scale planned industrial development at the last largely undeveloped interchange in the Township, at the intersection of Rt. 55 and Rt. 47. The area is proximate to the Gloucester County College and two interchanges from the new South Jersey Technology Park being developed by Rowan University in Harrison and Mantua Townships. This district is intended to allow more intensive development within an overall general development plan approval process to encourage the comprehensive planning for the

area. This is the underlying zoning district of most of the Five Points South Redevelopment Area. Higher floor area ratios would be permitted when developed comprehensively.

LI-1, LIGHT INDUSTRIAL 1

This designation has been applied to only limited areas in the municipality where there are existing scattered site manufacturing uses with the main land use designation in the Broadway corridor leading to Interstate 295. In addition to manufacturing uses and the uses allowed in the O-I district, automobile service uses would be permitted subject to conditions.

LI-2, LIGHT INDUSTRIAL 2

The Light Industrial 2 designation is for the older industrial park located by the Westville border with close access to I-295 from Rt. 47. The nature of this industrial park is for multi-tenanted and single use buildings occupied by manufacturing, shipping, distribution, wholesale sales and storage uses for companies with other retail sales locations. A higher floor area ratio may be permitted because of the low number of employees in relation to the building area, as well as the fact that the uses are not intended for sales to the general public.

LI-3, GENERAL INDUSTRIAL

This land use classification represents a reassessment of the usefulness of the Flex zoning district in the southerly end of Rt. 41 acknowledging the existing heavy or more intensive uses in this stretch of the highway. The standards applied to the existing uses do not address the real impacts created by these existing uses, which are primarily visual and circulatory. This district would generally permit the existing uses but would apply a more comprehensive set of performance standards to the properties. Taking this approach should provide an incentive for property owners to invest in improving the look of their business and properly channelizing truck traffic.

RR, RESOURCE RECOVERY

This land use designation applies only to the Kinsley landfill and is intended to allow the use of collected methane for power generation and other clean technologies and the development of solar collector arrays. Both of these are existing uses of the property. Similar uses are allowed in the Five Points Central Redevelopment Area which also covers this land use category.

INS, INSTITUTIONAL

Deptford has a wide variety of governmental, public and quasi-public, educational, and religious institutions within its boundaries. This land use category has been applied to such uses. Since the accompanying zoning district has a five acre minimum lot size, some religious

institutions on very small lots are included within the surrounding residential district for clarity of the Land Use Plan.

OS, OPEN SPACE

The Open Space land use category identifies land to be acquired or restricted for conservation, active and passive recreation. The land identified for potential open space acquisition includes the remainder of the former Lakes of Bankbridge PUD, and the remainder of Whispering Lakes not yet acquired by the municipality (*see* Open Space and Recreation Plan Element). Land owned by Deptford Township for recreation or conservation purposes has been labeled as Open Space. Other lands held by the municipality are in the Institutional classification. If owned by a public entity, conservation trust, or other organization for open space, the areas are proposed to be protected from uses that would damage or degrade the ecological capabilities of the land, and to remain essentially undeveloped except for structures ancillary to recreation and leisure activities, such as food stands, restrooms, equipment houses, or outdoor performance space. On private land, the zoning applied would need to differ whether it was publicly or privately owned since reasonable economic use of private land must be maintained. In those instances, the land would be either zoned for institutional or low density residential uses, depending on the type of ownership.

SUMMARY AND RECOMMENDATIONS

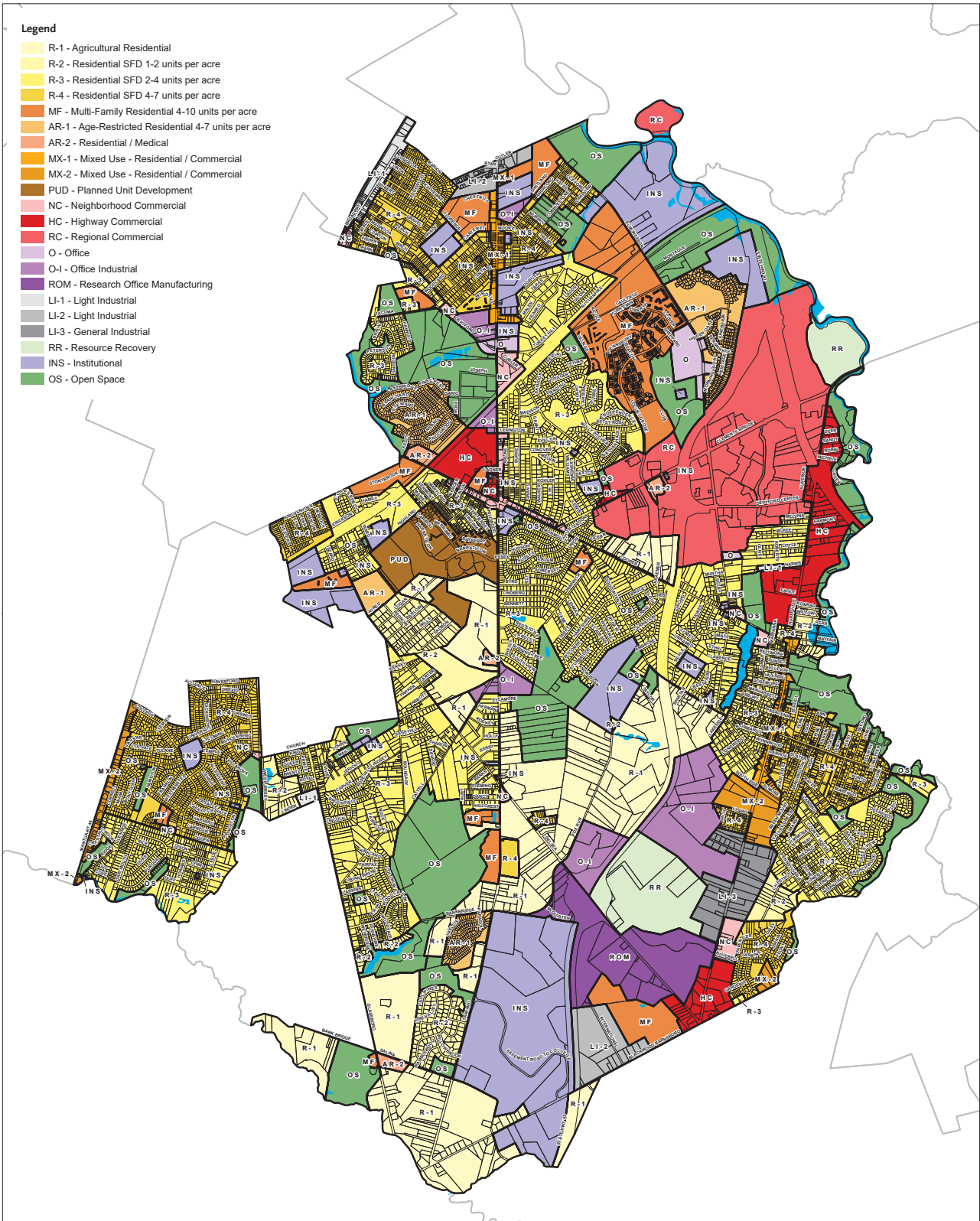
The Land Use Plan Element synthesizes the main themes of this Master Plan by signaling a shift from purely residential or commercial development to more mixed use. It points to the future where the available land resources will be scarce and earmarks certain parcels for potential open space acquisition or development rights purchase. This will allow the municipality to meet the future recreational needs of its population. The plan includes several new policies on housing and zoning districts related to housing. Specific recommendations include the following:

- 1) As neighborhoods age, targeted efforts in preservation need to be made to ensure their continuation as viable communities. The effort includes code enforcement, capital improvement budgeting, state assistance if available, and ensuring that the municipality's land development code allows home improvement to meet current expectations of buyers.
- 2) Maintain the integrity of larger residential lots in the central and southern portions of Deptford for environmental protection purposes and to provide areas for executive housing to balance residential land uses in the municipality.
- 3) Develop a redevelopment plan for the Bellmawr Waterfront Redevelopment Area, as needed.

- 4) Implement the land use categories through the Township's Unified Development Ordinance as appropriate.

Legend

- R-1 - Agricultural Residential
- R-2 - Residential SFD 1-2 units per acre
- R-3 - Residential SFD 2-4 units per acre
- R-4 - Residential SFD 4-7 units per acre
- MF - Multi-Family Residential 4-10 units per acre
- AR-1 - Age-Restricted Residential 4-7 units per acre
- AR-2 - Residential / Medical
- MX-1 - Mixed Use - Residential / Commercial
- MX-2 - Mixed Use - Residential / Commercial
- PUD - Planned Unit Development
- NC - Neighborhood Commercial
- HC - Highway Commercial
- RC - Regional Commercial
- O - Office
- O-1 - Office Industrial
- ROM - Research Office Manufacturing
- LI-1 - Light Industrial
- LI-2 - Light Industrial
- LI-3 - General Industrial
- RR - Resource Recovery
- INS - Institutional
- OS - Open Space



Clarke Caton Hintz ● ● ■
 Architecture
 Planning
 Landscape Architecture

Land Use Plan

LOCATION:
 Deptford Township, Gloucester County, NJ

DATE:
 January 11, 2017

COMMUNITY DESIGN SUB-ELEMENT

INTRODUCTION

The Community Design Sub-Element is part of the Land Use Plan Element but has been separated to give it a special emphasis in this Master Plan. The Community Design Sub-element also functions as a technical appendix to the Master Plan as it discusses the form of buildings and their relationship to other buildings and streets.

Community planning, prodded by the emergence of the new urbanism movement beginning in the mid-1980's, has rediscovered its roots in the physical layout and design of towns, suburbs and cities. New Jersey faces the prospect of being the first "built-out" state in the country in the next 30 years. Built-out means that all of the land available for housing, shops, factories and institutions will be used and new development will require the redevelopment of existing buildings or obsolete sites. When redevelopment is the primary means of creating new buildings, design becomes more important. This occurs because each new building will be built in an existing context of other, older, buildings. It contrasts with the emergence of suburbs when land converted from farmland or woodland and few surrounding buildings existed – the neighborhood created its own context. Today, in order for new buildings in redevelopment to be compatible with the development that already exists next door and down the block, their design must integrate the new with the old. Without good design, the character of the community can become lost.

At this point in its development, the Township has sufficient vacant land resources that locations for new housing are still available to create a new context, but in terms of its commercial development, it is virtually all redevelopment. This has been the case since the mid-1990's.

Of the different types of non-residential development, retail centers have the fastest obsolescence. While new forms of retail development do not completely eliminate earlier types, new centers are often favored by the public and usually have higher sales per square foot than older centers. Retail development has undergone an evolution from the traditional downtown (Woodbury), to suburban strip centers (the original Deptwood Center), the creation of the enclosed shopping mall (Deptford Mall), the reinvention of the suburban strip center as a power center of big box merchants (Deptford Landing) and the creation of life style or entertainment retail centers (no examples yet in Deptford). Each new form seeks to capture consumer dollars by differentiating itself from other retail centers. This sub-element seeks to guide the design of new forms of retail development through a set of illustrations as well as retrofits of existing centers.

The Master Plan seeks to move away from new purely retail developments to more mixed use that incorporates retail, office and residential uses, with pedestrian connections and integrated

amenities, such as plazas and seating. It also seeks to improve solely retail sites through the use of landscape architectural elements that enhance the appearance of centers.

In the region, some mixed-use development has occurred where transportation systems have interconnected, for example a major or a highway with a train stop. Comprehensively planned districts surrounding a train stop are often called “transit-oriented development” or TOD. NJ Transit and the Delaware Valley Regional Planning Commission, for instance, have undertaken a number of planning studies that look at the feasibility of developing the land surrounding a train stop for TOD in north and central New Jersey, on the PATCO High Speed Line and around SEPTA stations in the Philadelphia suburbs. Possibly, should a bus rapid transit terminus be established in Deptford, it could become the nucleus of a TOD. These concepts are illustrated below with images taken from other locations outside of New Jersey where they have been more fully developed.

MIXED USE FORMS



A minimum two-story appearance is important in creating an appropriate scale where buildings are close to the street. One-story buildings have less mass and do not create the “street wall” effect desired.



This project incorporates ground level retail uses with second story offices. It also illustrates the use of a speed table for the extra wide crosswalk in the foreground as discussed in the Circulation Element. The project also includes a six-story hotel in the background that functions to terminate the view down the street and create a sense of place.



This illustration and the following picture demonstrate one of the fundamentals of the form-based concept of land use regulation – setting standards for the shape and scale of building while paying less attention to uses. In these illustrations, the ground floor could be used for either retail or residential use. The ground floor is used for retail purposes in the top illustration and housing in the bottom one.



MULTI-FAMILY FORMS



New forms of multi-family housing are emerging that combine aspects of townhouses and flats, or apartments. The three-story parts of this project could either be designed as a townhouse or what is called a “stacked” townhouse - a flat with a townhouse above it.



The next three illustrations (one on the following page) depict how the same basic form of a structure can be designed to enhance or deemphasize the type of dwellings that are located in the building. In the top illustration, the distinctly different floors, balcony treatments and door locations identify this building as containing only flats.



The middle illustration to the left has elements that suggest that it could be either all flats or a series of stacked townhouses, particularly in places where multi-story porches are common on townhouses.



The final illustration has a design that emulates a large townhouse through vertical differences in the façade and the prominence of a third story bay window and centered dormer. All three of the illustrations depict buildings that are all flats.

RETAIL IMPROVEMENT



Entrance signage and landscaping create the first impression of a site. In this shopping center, the use of contrasting color from different plants enhances the appeal of the sign.



Focal points are created through the use of varied paving materials and the fountain. Plants add to the sense of enclosure created by the brick pavers.



Raised planters function to define the plaza area and to separate shoppers from parked vehicles. This design can be used to address grade changes with steps (see following illustration) by utilizing the brick portion for handicapped access.



Addressing the change in the grade of the site adds interest to the project and provides an opportunity to create an additional display window and seating area.



Sculpture or other public art adds to the site amenities.



Outdoor cafes can enliven an area. A fence demarcates the café from the pedestrian portion of the sidewalk, defining the public from the quasi-public space.



All too often, building lighting is not coordinated with site lighting. In this illustration, the building lights functions as pedestrian illumination and complements the site lighting. The site lighting is low and at a human scale.



The contrast in paving materials defines the pedestrian walkway that leads from one section of the shopping center to another. This illustration also depicts the concept of the pedestrian street; motorists drive with extra caution due to the changes in curb height and use of lighted bollards in the center of the photograph.



Hedging of parking areas blocks the view of significant stretches of asphalt, yet is low enough to allow security personnel to see into the parking lot.



Pedestrian walkways run through the parking lot to the buildings but are separated from parked vehicles. Illumination is provided at each conflict point between pedestrians and vehicles.

These illustrations are to be used in the site development process to guide the design of architectural and landscape architectural elements for mixed use, multi-family and retail development. They are also intended to underpin the establishment of design guidelines either as a separate brochure for developers or to be incorporated into the Uniform Development Ordinance of the Township.

STATEMENT OF PLANNING CONSISTENCY

INTRODUCTION

This section addresses the relationship of the land uses proposed under Deptford’s Master Plan to the land use designations and related Master Plan policies of contiguous municipalities, Gloucester County, and the State of New Jersey.

LAND USE POLICIES IN SURROUNDING MUNICIPALITIES

Serving as a central hub of southern New Jersey, Deptford Township plays a critical role in shaping the regional landscape. Deptford Township is bordered by ten municipalities that range in character from the dense City of Woodbury to partially rural Mantua Township. Through assessing neighboring land uses, Deptford will ensure that it is promoting land uses that are compatible with its adjacent municipalities and will foster regional planning within the southern New Jersey region. Municipalities’ land use policies begin with Westville to the north; traversing clockwise each municipality is reviewed in turn.

Westville Borough

Spanning 1.4 square miles, Westville Borough is located north of Deptford Township. Most of the Borough is separated from the Township by I-295, so there are few land use effects created by the different zoning districts and land use categories in the two municipalities.

Bellmawr Borough

The Borough of Bellmawr, Camden County, borders Deptford Township to the North. The Light Industrial district in Bellmawr is located on the western portion of the shared municipal boundary. The Light Industrial zone permits commercial and industrial development of a mechanical nature as well as specified residential uses. The Light Industrial district is directly opposite Big Timber Creek from the Andaloro Wildlife Preserve in Deptford Township. Bellmawr’s Recreation and Open Space district, which limits uses to public parks, outdoor and indoor recreational uses, passive or active open space, and community centers, is located to the west of the Light Industrial district in the Borough and immediately adjacent to Creek. The Light Industrial zone in Bellmawr completely surrounds the 26-acre Big Timber Creek Redevelopment Area and which is designated for regional commercial uses, one of the allowed uses in Bellmawr’s Light Industrial District. Consequently, there are no land use incompatibilities that are created between the two municipalities.

Runnemedede Borough

Located in Camden County, Runnemedede is situated to the northeast of Deptford and south of Bellmawr. The Borough is comprised primarily of residential uses, with two residential zones located along the Deptford Border. The Residence R-2 zone is the least dense residential zone, establishing a minimum lot size of 20,000 square feet. Its neighboring Residence R-3 district is substantially denser, setting a minimum lot size of 8,000 square feet. While Runnemedede's R-2 and R-3 districts are adjacent to Deptford's Open Space, Regional Commercial and Resource Recovery land use classifications in this document, the tidal Big Timber Creek separates these land uses. At least 800 feet separates active land uses from each other. Consequently, there are no land use incompatibilities created by the land use policy on Runnemedede land uses.

Gloucester Township

Like Runnemedede and most of Bellmawr, the Township is separated from Gloucester Township by Big Timber Creek which is characterized as a slow-moving, tidal, stream with many bordering areas of tidal marsh. This separation and the wooded nature of both sides of the Creek, limit any land use incompatibility that may exist. Bordering Deptford Township to the east, Gloucester Township, Camden County is bisected by NJ State Highway 42. The R-3 Residential district, which defines the minimum lot size for a single family dwelling as 9,375 square feet, is the predominate use located along the Township's border with Deptford. The Gloucester Township R-3 Residential zone is compatible with surrounding land uses, as it is adjacent to R-1, R-2 and R-3 residential land use classes, and the Institutional and Highway Commercial land use districts. While Highway Commercial uses can create compatibility problems, these uses front on Rt. 41 and are on top of the bluff overlooking the Creek, at least 1,000 feet from other uses in Gloucester Township.

Gloucester Township has designated two areas on the Deptford border as the BP Business Park zone. The BP Business Park zone provides for comprehensively planned office, as well as combined office and manufacturing or warehouse uses in single or multi-tenant buildings. The northern BP Business Park zone neighbors the BC-2 Business Center Two zone in Deptford while the southern BP Business Park district is adjacent to the BC-4 Business Center Four zone. The similarity in permissible uses provides for a natural transition between municipalities. Comparably, Gloucester Township's NC Neighborhood Commercial and GI General Industrial zones, both of which are located next to the BP Business Park district and both of which are commercially oriented, border Deptford's BC-4 Business Center Four zone. Gloucester Township also designated an IN Institutional zone along the northern portion of the municipal border. The IN Institutional zone permits governmental, educational, charitable, health care and religious uses. The IN Institutional district neighbors the BC-2 Business Center Two district, which complements the IN zone, as it provides access to goods and services.

Washington Township

Washington Township is situated to the East of Mantua and to the southwest of Deptford Township. Washington Township has the largest population in the County and is suburban in character, with a slightly higher density of development than Deptford. In the Five Points area, Washington Township has zoned the county and state highway frontages as HC Highway Commercial, which allows for uses, including but not limited to, retail stores, eating establishments, office space, personal services, and government buildings. This zone neighbors the R-10A Medium & Low Density Residential in Deptford Township, which if buffered properly, does not create adverse impacts along its edge.

The Highway Commercial zone in Washington is also along the central portion of the municipal border, and flanks Deptford's Highway Commercial land use, which allows for intense development automobile-oriented uses. The frontage along Blackwood-Barnsboro Road is identified as a redevelopment district to allow for a comprehensively planned retail, residential and office development, which is quite similar to the Five Points South Redevelopment Area in Deptford.

Additionally, Washington Township located its PI Planned Industrial zone along its border with Deptford in two distinct locations. The southern PI Planned Industrial is adjacent to Deptford's LI-2 Light Industrial land use district. The northern PI Planned Industrial neighbors Deptford's, the R-6 A, Affordable High Density Residential, R-10 Medium Density Residential and R-10 A, Low to Medium Density Residential. Uses permitted in Washington Township's Planned Industrial zone include scientific or industrial research engineering laboratories, warehouse facilities, light manufacturing, municipal and government buildings, and wholesale business establishment, and public utility service yards. This area is proposed for a change in land use classification from residential to Mixed-Use 2 as a transition area on Blackwood-Barnsboro Road northeast of the Five Points intersection.

Washington Township juxtaposes zones that promote a rural character to the PI Planned Industrial districts. In particular, the R Rural Residential zone is located to the North and to the South of the PI Planned Industrial zones. The R Rural Residential district permits detached single family dwellings, farm buildings and agricultural uses. The established minimum lot size is five acres. The southern R Rural Residential zone neighbors Deptford's INS Institutional zone and R-40 Low Residential zone, while the northern R Rural Residential district is adjacent to Deptford's R-6 Affordable High Density Residential, R-10 Medium Density Residential, R-10A Medium & Low Density Residential, and C-2 Commercial districts. Additionally, Washington's PR-1 Planned Residential One zone is located to the east of the R Rural Residential District. The PR-1 Planned Residential One district, permits single-family developments to be built on lands formerly zoned rural and designated in the Master Plan as R/LI. The zone allows applicants to reduce the size of lots; however, the maximum density is set at 1.6 units per acre. This zone is adjacent to the R-10 A zone in Deptford, which allows

denser development. While the intensity of the use is greater, the respective zones are compatible.

Mantua Township

Mantua is located to the southwest of Deptford Township and shares a border with Deptford Township's southernmost R-1 Agricultural Residential land use category and Open Space. Mantua Township also abuts the south end of Oak Valley. Mantua Township provides for a multitude of uses along its border with Deptford. Mantua's LI Light Industrial zone flanks the northern portion of the shared border. The Township's LI Light Industrial district permits the following uses: general business, professional and government offices, data processing, research and engineering activities, assembly and light manufacturing, wholesale distribution centers and warehouses, and commercial greenhouses, nurseries, and florists, and nursing homes. While the traffic associated with the wholesale distribution centers and the warehouses may affect the character of Deptford's R-40 Residential district, the uses are compatible and provide residents of Deptford with convenient access to employment centers.

Mantua's R-40 Low Density Residential district is located to the south of the LI Light Industrial zone. Mantua's R-40 Low Density Residential district sets the minimum lot size at one acre, which reflects the density defined in Deptford's R-40 zone. Additionally, Mantua's R-22 Medium Density Residential zone, which establishes the minimum lot size at a half acre, neighbors Deptford's R-40 zone and presents a complementary use. Mantua's AT Apartment/Townhouse district is located along the southernmost portion of the shared border with Deptford, and has a maximum density at 6 units per acre. While this is denser than the R-40 district in Deptford, it is still a compatible use. The aforementioned residential districts in Mantua and Deptford are serviced by Mantua's CC Community Commercial district, which is located to the south of the R-22 zone. Permissible uses in the CC Community Commercial zone include retail trade, restaurants, banks, general and professional offices, personal and professional offices, and garden centers.

Wenonah Borough

The Borough of Wenonah is located to the southwest of Deptford Township. The Borough's R-1 Residential zone is the dominate zoning district in Wenonah and requires lot size minimums that range from 11,250 square feet for existing single lots to 22,500 square feet for proposed units. The R-1 Residential zone adjoins the R-6 High Density Residential, R-10 Medium Density Residential, and the INS Institutional districts, all of which are compatible uses. Wenonah has an additional residential district located to the south of the Borough. The LR Low Density zone, which requires a minimum of one acre per unit, borders Deptford's R-40 Low Residential district. The neighboring zoning district promotes a natural transition between the two municipalities, as the density and permitted uses are quite comparable.

In addition, the Borough has designated land for conservation and recreation through its P&C Parks and Conservation District, which loops around the south, east, and north of the R-1 Residential zone. This zone is designed to preserve open space in perpetuity for present and future residents of Wenonah. The northwestern most conserved land in the Borough is adjacent to both the R-6 High Density Residential and the INS Institutional district, whereas the land to the northeast of the border neighbors the LI-1 Light Industrial in Deptford. The southeastern most portion of the P&C Parks and Conservation district abuts a little league field in Deptford, which is in the Township's INS Institutional zone. It also flanks the R-40 Low Density Residential district.

While the majority of Wenonah Borough is zoned for Residential uses, a small portion of land that is located on the eastern border of the Borough is designated C Commercial and I Institutional. The C Commercial zone permits such uses as retail, personal service shops, business offices, restaurants and public garages. Both the Borough's C Commercial and I INS districts neighbor Deptford's R-10 and R-20 Residential zones.

Woodbury Heights Borough

Located to west of Deptford and south of Woodbury, Woodbury Heights Borough has a common boundary with Deptford for about three-quarters of its length. Comprised of four zoning districts, the CC Community Commercial, HC Highway Commercial, LI Limited Industrial and R Residential, this area is next to Oak Valley and on the north side of Church Street in the Jericho neighborhood. These residential uses are earmarked for single family detached uses for the most part and are compatible land uses.

On Rt. 45, the highway district in Woodbury Heights is a close approximation of the MX-2 land use category in Deptford, by since it has deeper lots than in Deptford; the Woodbury Heights land use is strictly commercial. Since these are both linear forms of development, the interface between them is only one lot deep and separated by a road, College Boulevard. No major land use incompatibility is created by these slightly different forms.

On the opposite side of Woodbury Heights, significant woods, wetlands and a stream separate land uses between the Township and the Borough.

Woodbury City

Located to the northwest of Deptford Township, Woodbury City serves as the county seat for Gloucester County. The municipalities' respective land use policies are compatible and serve to reinforce the shared character of the area. Within the City of Woodbury, the R-90 Residence is the prominent zoning district along the border and is located along the center of the boundary. The R-90 zone permits single family residences and establishes the minimum lot size at 18,000 square feet. Correspondingly, this zone abuts the R-10 Medium Density

Residential, R-10A Medium and Low Density Residential, RM-2 Multi Family Residential and INS Institutional districts in Deptford Township, all of which are compatible uses.

Woodbury's R-60 Residence District is located directly to the North of the R-90 zone. The R-60 district defines the minimum lot size as 6,000 square feet, but are consistent with the Township's R-3 land use classification (separation is achieved in a number of areas by an open space designation). A small sliver of R-1, Agricultural Residential abuts the R-60 district in Woodbury City. While this land use designation permits less intense development, the two zones allow similar uses. Similarly, Woodbury designated the area to the south of its R-90 district as PA Planned Apartments, which is denser than the nearby R-6 zone in Deptford Township but does not raise any compatibility concerns due to the open space separator in between.

While the residential districts in Woodbury City complement Deptford Township's existing land use regulations, the City's zoning along the northern most shared border does not reflect the character of the adjacent zones in Deptford Township. Woodbury designated the area along the northern portion of border as C-3 Commercial, R-35 Residence, and I Industrial districts. The C-3 zone permitted uses include laboratories for scientific or industrial research, bulk laundries, food processing, and general contracting. The R-35 Residence establishes the minimum lot size as 3,500 square feet. In contrast, the neighboring zones in Deptford are R-6 and R-10. While the municipalities' residential zones are comparable, the intense uses in the City's Industrial district create land use incompatibility for the R-2 and R-3 land use classes in Deptford. However, this pattern has existed for decades and is unlikely to be changed in the time period of this document.

West Deptford Township

One of the five municipalities located along Deptford's western boundary, West Deptford Township borders Deptford in North Woodbury and Oak Valley. In North Woodbury, West Deptford has earmarked general commercial uses and the land use plan proposes Light Industrial. These are compatible land uses and in any event are separated from each other by the Camden to Glassboro railroad line and Rt. 45. In the southern boundary, West Deptford's R-2 Suburban Residence and SC Shopping Center districts facilitate the transition between the two townships. The R-2 district limits lot sizes to minimums of 20,000 square feet if there is no water or sewer infrastructure available, 15,000 square feet if there is either water or sewer, and 10,000 square feet if both water and sewer infrastructure are available. The West Deptford R-2 Suburban Residence and the SC Shopping Center district border the Mixed Use-2 land use category. The Mixed Use-2 land uses are residential and service oriented commercial uses, which are consistent with West Deptford's designations. Here as well, Rt. 45 separates the two townships.

COMPATIBILITY WITH REGIONAL AND STATE PLANNING DOCUMENTS

The consistency of the Master Plan with regional and state plans is examined in this section. The documents compared include Gloucester County's Cross Acceptance Report and the 2001 State Development and Redevelopment Plan.

COUNTY OF GLOUCESTER, CROSS ACCEPTANCE REPORT

Gloucester County details its key planning initiatives and strategic hurdles in its Cross Acceptance Report, dated February 2005 which is the last comprehensive review of land use undertaken by them. The report highlights the County's completed Northeast Region Strategic Plan, which recommends the use of smart growth principles in developing a uniform growth strategy for the fourteen municipalities in the northeastern portion of Gloucester County. This plan reaffirms Deptford Township's Master Plan, which fosters development in locations that build on existing density and on sites that promote smart linkages.

Furthermore, the County's Cross Acceptance Report detailed its concerns related to the increased demands on the sewer and water infrastructure in Gloucester County. In particular, the County emphasized its struggle to meet the new demand related to its rapid growth while not overburdening the Potomac-Raritan-Magothy Aquifer or the existing sewer lines. Some of this has been relieved by the Tri-County NJ American Water project which extends into part of Gloucester County, but at a high price. Deptford Township addresses this concern via its Conservation Element, which stresses the need for sustainable development practices, and its Land Use Plan Element which advocates the development of areas adjacent to existing development.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN

The New Jersey State Development and Redevelopment Plan (SDRP), which was last adopted in 2001, is a comprehensive statewide guide to municipal, county and regional planning. It contains vision statements, goals, strategies and policies. The overall goals of the State Plan were derived from the State Planning Act, and include:

- 1) Revitalize the State's cities and towns;
- 2) Conserve the State's natural resources and systems;
- 3) Promote beneficial economic growth, development and renewal for all residents of New Jersey;
- 4) Protect the environment, prevent and clean up pollution;
- 5) Provide adequate public facilities and services at a reasonable cost;

- 6) Provide adequate housing at a reasonable cost; and
- 7) Preserve and enhance areas with historic, cultural, scenic, open space and recreational value.⁵⁸

The State Plan Policy Map integrates the two critical spatial concepts of the State Plan—*Planning Areas* and *Centers and Environs*—and provides the framework for implementing SDRP goals and policies. Each Planning Area consists of many square miles of land that share certain characteristics and strategic intentions. Centers are central places within Planning Areas where growth should either be attracted or contained, depending on the characteristics and growth opportunities of each Center, and the characteristics of the surrounding Planning Area in which it is located. Areas outside Center Boundaries are Environs and are supposed to remain rural or protected from the growth that occurs in Centers.

The Planning Areas, arranged in order from most to least developed, are as follows:

- PA1 Metropolitan Planning Area
- PA2 Suburban Planning Area
- PA3 Fringe Planning Area
- PA4 Rural Planning Area
- PA5 Environmentally Sensitive Planning Area

The 2001 plan is the document in current use. In 2016, the State Planning Commission is effectively a moribund agency through neglect by the executive branch. An update to the 2001 SDRP was never adopted by the State Planning Commission though worked on as recently as 2012.

Under the adopted 2001 New Jersey State Development and Redevelopment plan, Deptford Township is designated primarily as Planning Areas 1 and 2, with a small swatch of land to the North defined as Parks and Natural Areas (this is the Andaloro Wildlife Management Area). The boundary of the area within Metropolitan Planning Area 1 is closely aligned with the border of Deptford's proposed (but not adopted) center. Planning Area 1 extends slightly to the southwest; with the southernmost portion of PA 1 located just south of Wenonah Borough and east of Mantua Township. The southern portion of Deptford Township, which borders Washington Township, is located within Suburban Planning Area 2. Deptford at this point in its development could be considered as falling entirely into Planning Area 1. Planning Areas 1 and 2 are intended for the majority of growth within New Jersey.

⁵⁸ - New Jersey State Planning Commission, March 2001, *The New Jersey State Development and Redevelopment Plan*, p.7.

SUMMARY

As demonstrated in this section, the policy goals and objectives for the Deptford Master Plan are substantially consistent with local plans and ordinances, County strategic planning documents and the State Development and Redevelopment Plan. While certain minor inconsistencies exist with regard to land use policies in adjacent municipalities, these do not alter the substantial compatibility of this document with other relevant planning documents.