Hamilton Township Master Plan

Mercer County, NJ

ADOPTED | JUNE 16, 2011

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Hamilton Township Master Plan

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Prepared pursuant to *N.J.S.A.* 40:55D-28 of the New Jersey Municipal Land Use Law

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SECTION 1

Introduction

On March 11, 1842 the New Jersey State Legislature passed an Act officially creating the Township of Hamilton from what had previously been the Township of Nottingham. Since that time Hamilton Township has grown from scattered industries, villages and agriculture to a thriving community of approximately 88,000 residents with business, industry and institutions serving the central Jersey market and beyond.

True to these early settlement patterns, Hamilton is still aptly described as a community of neighborhoods. The fabric of historic villages, such as Bromley, Mercerville, Groveville, Hamilton Square, Cornell Heights, Extonville and others, have matured over time into neighborhoods which connect with other neighborhoods and with commercial centers. The proximity of homes to schools (Hamilton has 17 elementary schools), parks and open space (Hamilton has over 64 municipal parks) and convenience service and retail uses (Hamilton has a dozen commercial nodes and corridors) are key to the high quality of life in the Township.

The Township is a significant population center and, with nearly 30,000 jobs in 2007[1], is also an important economic generator in the region. One of the most influential features that contributes to the Township's growth is its excellent regional highway access stemming from the regional highways in the Township – State Highway Routes 29, 33, 130 and the New Jersey Turnpike and Interstates 295 and 195. Additionally, the Township enjoys excellent mass transit access with the Hamilton Train Station, one of the busiest stops on NJ Transit's Northeast Corridor line. Hamilton is centrally located between the New York and Philadelphia markets and its regional access provides convenient access to both metropolitan areas.

By virtue of its size and geography, Hamilton Township is one of the most diverse municipalities in the region. The northwest portion of the Township, adjacent to the City of Trenton, has an urban form that consists of dense development with a mixture of land uses. This area represents a traditional urbanized pattern of development where residential, commercial and industrial land uses are located in close proximity and streets are plotted in a grid. This development pattern and density dissipates as one moves south in the Township. The central portion of the Township has a lower density with predominantly 20th century construction and is more suburban in nature with a greater separation of residential and commercial/industrial uses. The southern part of the Township – defined for this purpose as the area generally south of the Route 130 corridor – has a distinctly different character than the northern and central portions of the Township. This area features agriculture and open space, with an occasional low density residential subdivision, and retains a rural and agricultural character.

At 40.4 square miles, Hamilton Township is the second largest municipality in land area in Mercer County. With a population (2010 census) of approximately 88,000, Hamilton ranks as the 9th most populous municipality in New Jersey (see Exhibit 1). It is the most populous municipality in Mercer County, comprising 24% of the County's population (2010 census). The Township grew rapidly from 1940 to 1970; however, since then growth rates each decade have declined, with the Township adding less then 2,000 people over the past 20 years (see Exhibit 2).

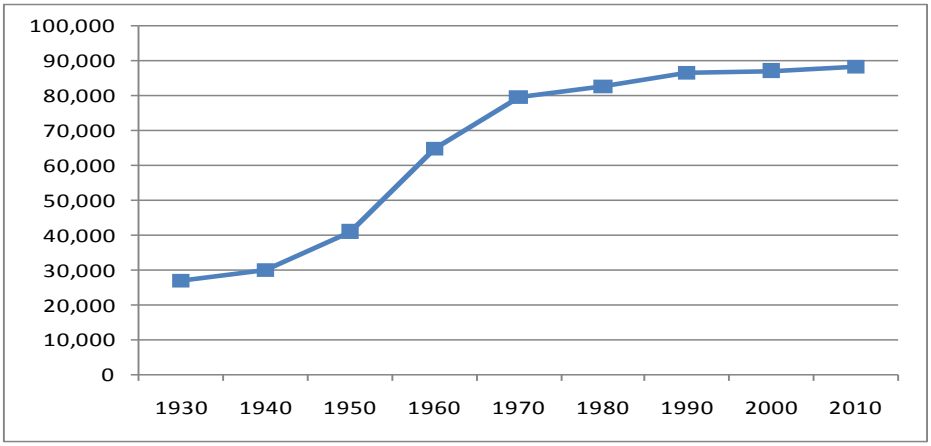
1 2007 US Economic Census

Exhibit 1: Most Populous New Jersey Municipalities

Municipality	1990	2000	2010
Newark City	275,221	272,434	277,140
Jersey City	228,537	240,055	247,597
Paterson City	140,891	149,222	146,199
Elizabeth City	110,002	120,568	124,969
Edison Township	88,680	97,597	99, 967
Woodbridge Township	93,086	97,203	99,585
Lakewood Township	45,048	60,352	92,843
Toms River Township	76,371	89,705	91,239
Hamilton Township	***86,553***	***87,109***	***88,464***
Trenton City	88,675	85,397	84,913

Source: 1990-2010 US Census

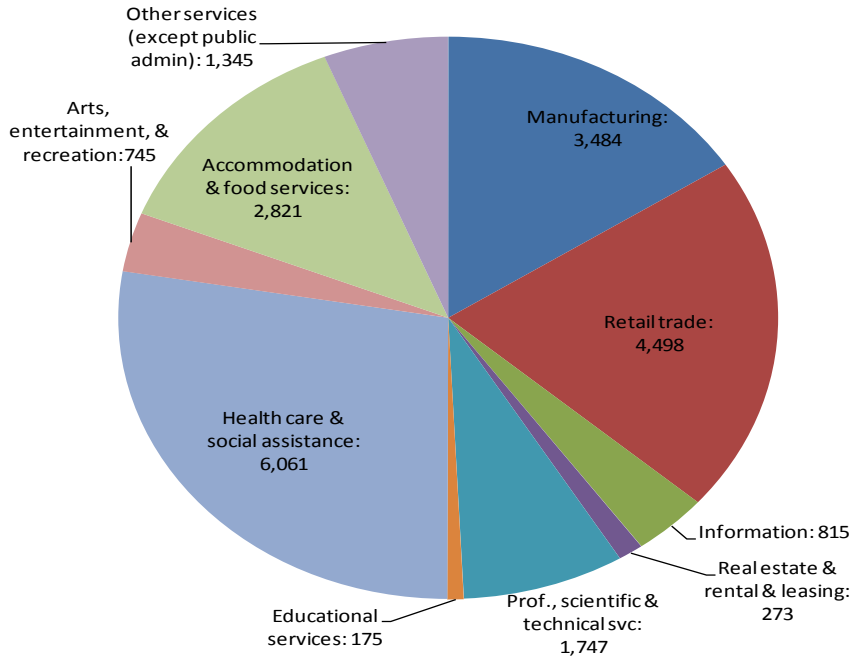
Exhibit 2. Hamilton Township Population Growth



Source: 1930-2010 US Census

The Township is a significant job center in the region, having nearly 30,000 jobs in 2007. With just over 6,000 jobs, the industry with the most employees in the Township is the health care and social assistance industry. This industry is followed by retail with approximately 4,500 jobs and then by manufacturing with approximately 3,500 jobs. In fourth place is Hamilton's accommodation and food service industry with approximately 2,800 jobs. (see Exhibit 3).

Exhibit 3. Employees by Industry in Hamilton Township (2007)



Source: 2007 US Economic Census

This Master Plan sets a course for land use policies for the next 10 years and beyond. This plan seeks to enhance the quality of life in Hamilton Township through a balance of land uses and thoughtful policies that promote neighborhood preservation and economic development.

This is the first comprehensive master plan the Township has completed since 1978. However, during those intervening years there has been a Master Plan update in 1989, various Reexamination Reports, individual master plan elements and special studies. Most recently the Planning Board adopted a *2008 Reexamination Report, 2009 Arts and Culture Land Use Plan Amendment and the 2009 Land Use Plan Amendment Related to the Rural Resource Conservation Zone.*

With some noted exceptions, this Master Plan supersedes all previous master plan documents as it has been prepared to incorporate those master plan policies that remain relevant to the issues now facing Hamilton. The following documents are incorporated by reference:

- 2006 Stormwater Management Plan; and
- 2008 Housing Element and Fair Share Plan.

This Master Plan contains six Elements:

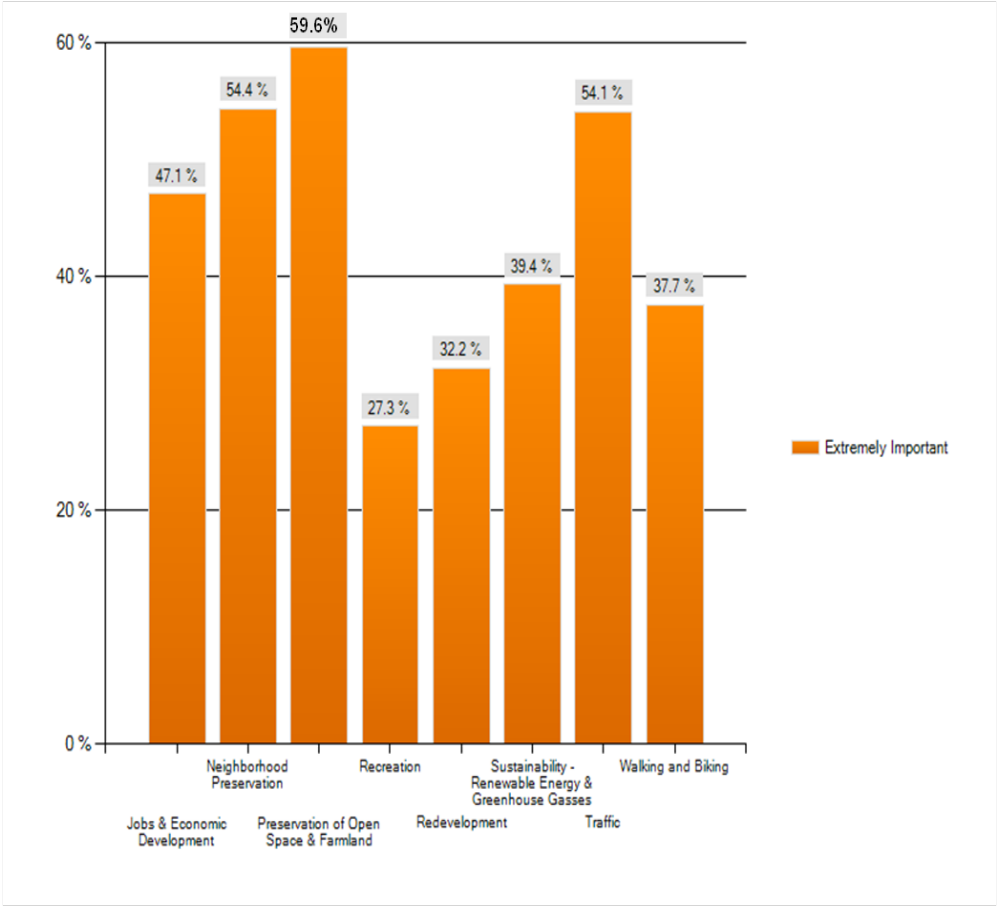
- Green Buildings and Environmental Sustainability Plan;
- Open Space and Recreation Plan,
- Economic Development Plan;
- Circulation Plan (prepared by Remington & Vernick Engineers);

- Conservation Plan (prepared by the Delaware Valley Regional Planning Commission); and
- Land Use Plan Element.

Additionally, adopted as an appendix to the Conservation Element is an Environmental Resource Inventory, also prepared by the Delaware Valley Regional Planning Commission, and adopted as an appendix to the Circulation Plan Element is the *Hamilton Township Bicycle and Pedestrian Circulation Study*, which was prepared by Parsons Brinkerhoff and funded by the New Jersey Department of Transportation's Local Technical Assistance Program. Also included, although not technically a master plan element, is the Statement of Planning Consistency.

The master plan process was designed to be transparent, predictable and to elicit participation from interested citizens. During the process there were nine public meetings where residents and property owners were invited to learn about ideas being considered and to provide input on a variety of issues. The Township created a website (www.hamiltonmasterplan.com) to help facilitate this public interaction and to disseminate information to the community. The website included a number of features to engage readers with the master plan process, such as a survey asking respondents what topics should be priorities in the Master Plan. The topics with the highest ratings were the preservation of open space and farmland at 59%, neighborhood preservation and traffic at 54% and jobs and economic development was at 47% (see Exhibit 4). While the survey results are not statistically meaningful for a municipality of Hamilton's population base, they are indicative of relative interests in land use issues and provide an interactive means to continue to engage the public in the master plan process.

Exhibit 4. Master Plan Priorities Survey



Highlights of the plan include policies to promote revitalization of the Township's established commercial corridors so that they may continue to provide goods and services to residents and to the region and contribute positively to the quality of life in the Township. These policies extend a new, mixed-use development option to certain scale properties where sufficient land area exists to properly combine retail, service, office and residential uses on one site. The plan also includes policies to facilitate the growth of the medical and biotechnology industry principally in the Route 130 and Kuser Road corridors. These master plan policies are intended to build on the foundation provided by the Robert Wood Johnson Hospital, the satellite facilities of Capital Health and the expanding presence of the Genesis Biotechnology Group.

Through the Conservation Element and Environmental Resource Inventory this Master Plan provides a wealth of information on the Township's natural features as well as recommended policies on how to balance their preservation wile fostering economic development. Similarly, established neighborhoods and individual residential properties need to be protected from commercial/industrial intrusions.

Comprehensive Goals and Objectives

Goal 1: Achieve a proper balance in the distribution and location of the various land uses to provide a varied and healthful environment for people who live and work in the Township.

Goal 2: Focus the Township's remaining development potential on lands that can support compact development, are well served by transportation and other utility (sewer and water) infrastructure, and are in proximity to employment and service centers. Direct new development away from productive agricultural lands, stream corridors, wildlife corridors and other environmentally sensitive lands.

Goal 3: Preserve and enhance the character of Hamilton's neighborhoods so that they may continue to positively contribute to the Township's quality of life.

Goal 4: Provide realistic opportunities for a variety of housing types and sizes which are affordable to households at a variety of income levels.

Goal 5: Support the Township's retail, office and industrial districts so that the Township may strengthen its position as a major economic engine in Mercer County.

Goal 6: Foster the arts and culture in the Township so that they may enhance the quality of life and contribute to the local economy.

Goal 7: Reduce the environmental footprint of the Township through water conservation measures, waste reduction, improved site design and reduced reliance on fossil fuels.

Goal 8: Provide effective stormwater management and reduce impacts of flooding throughout the Township.

Goal 9: Promote a balanced and multi-modal transportation system that safely and efficiently meets the needs of the Township's diverse population as well as visitors utilizing the regional transportation system.

Goal 10: Plan for capital improvements to ensure that the Township's infrastructure (roads, stormwater management, sewer, water, telecommunications, etc.) and community facilities are properly developed and maintained.

Goal 11: Provide ample parks offering both active and passive recreation facilities, preserve the agricultural character of the southwest portion of the Township and provide open space that supports the natural function of ecosystems.

Goal 12: Support the rehabilitation and continued use of the Township's historic districts and buildings for education, tourism, neighborhood enhancement, economic development and the preserve the history of Hamilton Township.

Purpose of the Master Plan

A Master Plan is a document that explicitly states the policies for land development and redevelopment. As such it is intended to guide the public and private sectors in making decisions on projects involving land use and capital improvements. Through the statement of goals and objectives, the master plan sets out a vision for the community in the coming years.

A master plan forms the legal foundation for the zoning ordinance and zoning map. New Jersey, among a handful of other states, explicitly ties the planning of a community as embodied in the master plan with the zoning ordinance and zoning map, which constitute the primary law governing the use of land. A zoning ordinance in New Jersey must be substantially consistent with the land use policies in the municipal master plan. In the same fashion, the zoning map must be substantially consistent with the land use element that is a part of the master plan.

The process of adopting a Master Plan provides a periodic opportunity to develop a shared consensus that balances many factors, including the needs of government, residents, visitors, property owners, the environment, economic influences, the business community and real estate development.

Municipalities like Hamilton, which still have significant opportunities for growth are required to reexamine the Master Plan and development regulations every 10 years.

SECTION 2

Green Buildings and Environmental Sustainability

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Green Buildings and Environmental Sustainability

This Element is intended to guide land use decisions and provide the basis for ordinances addressing land use issues from the perspective of environmental sustainability. New Jersey municipalities were authorized by an August, 2008 amendment to the Municipal Land Use Law to prepare Green Buildings and Environmental Sustainability Elements as part of the Master Plan. The Land Use Law describes the Element as the following:

> *"A green buildings and environmental sustainability plan element, which shall provide for, encourage, and promote the efficient use of natural resources and the installation and usage of renewable energy systems; consider the impact of buildings on the local, regional and global environment; allow ecosystems to function naturally; conserve and reuse water; treat storm water on-site; and optimize climatic conditions through site orientation and design."*

This Green Buildings and Environmental Sustainability Element presents policies for both new development and building rehabilitation that will aid the Township in becoming more sustainable through reducing reliance on fossil fuels, water needs, waste generation, vehicle miles traveled and promoting use of green building principles. It provides guidance on municipal actions to reduce the "environmental footprint" of the local government as well as that of businesses, industry, schools and residences. The term "environmental footprint" is defined as the rate of human consumption of resources and generation of waste as compared to the rate at which nature generates replacement resources and absorbs waste.

It is important to note that this Element addresses only those topics related to sustainability which are within the jurisdiction of the Planning Board and the Land Use Ordinance. There are many actions a municipality may take to reduce its environmental footprint that are outside the influence and jurisdiction of the Planning Board, and therefore this document as well. The Township's Climate Action Plan addresses a number of these measures, as described below.

While sustainability is a broadly supported principle, there is no universal definition for it. However, in 1987 the United Nations World Commission on Environment and Development created a definition for sustainable development that has been widely accepted:

> *"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

The preparation of this Element has generally been guided by this UN definition. The overarching intent of the Element is to ensure that planning and development, both public and private, in Hamilton Township is done such that future generations enjoy the same or enhanced opportunities in terms of fundamental needs like access to housing, employment, goods and services, open space and the local ecology, vibrant community life and environmental health. In some respects, the "environmental footprint" of the Township will need to shrink to achieve sustainability.

Hamilton is a very diverse community. The northwest part of the Township has compact building patterns while the north and northeast parts have suburban building patterns; however, all of these lands are well served by infrastructure, such as streets, transit and public sewer and water. The southern part of the Township consists of large residential lots, typically on well and septic, and agricultural lands and open space. This diversity of character and land uses results in a wide range of tools being available to make Hamilton Township become more sustainable.

The State of New Jersey has also taken steps to reduce its greenhouse gas emissions. Executive Order 54, signed by Governor Corzine in February 2007, was the State Government's first move toward setting a measurable reduction in greenhouse gases. Specifically, the Executive Order called for the following, among other items:

1. "Stabilization of greenhouse gas emissions at 1990 levels by 2020; and
2. Reduction of greenhouse gas emissions to 80% below 2006 levels by 2050."

Shortly afterward, in July 2007, the Governor signed the Global Warming Response Act which adopted the above statewide limits on greenhouse gasses. The Act requires that State agencies work together to achieve these limits. New Jersey was the third state to sign greenhouse gas reduction goals into law. Since then, the State has taken additional steps, such as adopting the 2008 Energy Master Plan, to reduce its environmental footprint, including its greenhouse gas emissions, and the Solar Energy Advancement and Fair Compensation Act, which implements the portions of the Energy Master Plan which promote solar energy in the State's energy portfolio.

Hamilton Township's Green Building and Environmental Sustainability Element is in step with these State initiatives by providing meaningful ways the Township can reduce its environmental footprint, including its greenhouse gas emissions.

Past & Ongoing Sustainability Efforts

Hamilton Township has been active in sustainability efforts for some time. The Township, in conjunction with the Environmental Commission, adopted a Climate Action Plan in 2009 which lays out a "no regrets" strategy for municipal climate action. The plan represents the Township's desire and intent to reduce harmful carbon and greenhouse gas emissions by through a reduction in energy consumption and utilization of alternative energy sources. The plan is intended to not only reduce the Township's environmental footprint but also create savings for Township residents, businesses and institutions by reducing energy consumption.

The Climate Action Plan represents a set of guidelines to reach specific goals: reduce emissions by 20% by the year 2020 with intermediate goals of reducing emissions by 2% annually starting with 2010. The Climate Action Plan includes a variety of recommendations to reach its goals, many of which have been implemented. The following list sets forth the recommendations of the Climate Action Plan and the implementation status of each.

- **Create a Green Office.** This new division within the Township government would create a clearinghouse for information involving energy conservation and other environmentally friendly initiatives. The Township has determined that the duties of a green office are best handled in the Department of Community Planning and Compliance.

- **Establish a Green Fleet Policy which requires the Township to purchase alternatively fueled vehicles.** The Township has taken several steps to implement this policy.
  - The Township has four vehicles that run on Compressed Natural Gas (CNG).

Mayor John Bencivengo with representatives of Central Jersey Waste

  - Hamilton is the first municipality in the State of New Jersey to store and supply E85 (85% ethanol and 15% gasoline) for a portion of its municipal fleet. There are currently about 30 vehicles in the fleet that are running on E85.
  - The Township is using B20 (20% processed soybean oil and 80% diesel fuel) in all of its diesel vehicles.
  - In April 2008, the Township modified the contract with its solid waste collection contractor to state clean fuel technologies must be used on all collection vehicles (e.g. garbage trucks). As a result, the contractor is using 10 trucks that are running on clean burning Compressed Natural Gas.

- **Establish an Anti-Idling Policy for municipal, Board of Education and/or private vehicles.** Hamilton Township prepared and adopted an anti-idling policy, which is stricter than the State anti-idling law, for all municipal vehicles. It requires that no Township vehicle or piece of equipment owned or leased by Hamilton Township idle in a non emergency situation.

- **Create an Extended Energy Efficient Infrastructure Policy.** This policy calls for use of energy efficient technologies where appropriate. The Township has for the past several years been upgrading light fixtures to use more efficient lighting technologies, such as using LED fixtures for exit lighting. This policy is further explored in this Master Plan Element.

- **Establish a Green Purchasing Policy.** This policy was established in 2006; however, the Climate Action Plan recommends it be revised to be consistent with the Rutgers University Green Purchasing Policy.

- **Establish a Brownfields to Greenfields program.** This program would encourage the conversion of brownfields (defined as real property whose the expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant) to productive properties engaged in activities related to climate change mitigation and adaptation, including relevant research, development and manufacturing. This policy is explored in this Master Plan Element.

- **Adopt LEED (Leadership in Energy and Environmental Design) "Green" building standards for building construction and renovation.** This policy is explored in this Master Plan Element.

- **Increase mass transit access to the Hamilton Train Station.** This policy is explored in this Master Plan Element.

- **Establish biking and walking initiatives (e.g. more bike paths, etc).** This policy is explored in the Open Space and Recreation, Circulation and Conservation Elements of the Master Plan.

- **Perform Stormwater and Wastewater System Upgrades.** This program would incorporate renewable energy generation where possible when upgrading Township infrastructure. This policy is explored in the Conservation Element of the Master Plan. Additionally, the Township has taken steps to improve the stormwater management and wastewater system. For example, all storm drains (inlets) have been labeled with "Do Not Dump, Drains to Streams". The Township also prepared a detailed Machine Sweeping Plan for all Township roads in commercial areas with speed limits 35 mph or less.

- **Renewable Hamilton.** This program would encourage investments in solar and biomass energy throughout the Township. This policy is explored in this Master Plan Element.

- **Recycling Program Expansion.** This would expand the current recycling program to require that all entities in the Township participate and would investigate to what extent the range of recyclable materials in the Township can be expanded. This policy is explored in this Master Plan Element.

In addition to the recommendations in the Climate Action Plan, the Township has taken the following steps to reduce its environmental footprint:

- Developed an Integrated Pesticide Management Policy which prohibits the use of certain pesticides in Township's parks and playgrounds.
- Developed a Building Energy Conservation Plan which has resulted in replacement of several hundred incandescent lights with compact fluorescent lights, installation of occupancy sensors and installation of high efficiency electronic ballasts and energy efficient bulbs for florescent lighting.
- Improved athletic field lighting resulting in approximately a 40% reduction in energy usage.
- Installed thermostats for plug-in to dump truck block heaters, which results in electricity savings since the block heaters only turn on when the temperature is 32 degrees Fahrenheit or less.
- Worked with the Natural Resource Conservation Service to create a Wildlife Habitat Improvement Program (WHIP) for the Braghelli Tract, a recent addition to Veteran's Park along Kuser Road, to construct wetlands and meadow grasses and wildflowers.
- Initiated a wildflower program which will reduce mowable acres by replacing selected lawn areas with naturalized wildflowers.
- Installed rain gardens at specified township facilities such as the Library.
- Collaborated with the Hamilton Board of Education to embark on an educational program involving students, the goal being to educate the community through its school children on the many things it can do to reduce energy usage and harmful emissions.
- Installed waste oil heaters in its equipment repair facility. All used oil from vehicles (oil changes, etc.) will be burned in the heaters thus reducing the need to purchase energy for heating the garage. The heaters are environmentally friendly.

- Solar Panels will be installed on the Public Works garage roof and will provide 30% of the electrical needs for this facility year round. This project is funded through the Energy Efficiency Conservation Block Grant.

The Township has been recognized for its many sustainability efforts. Hamilton Township received a "Sustainability Leadership Award" from Local Government for Sustainability USA (ICLEI) in 2009 for Community Outreach Innovation. This award was given for the Township's innovative approach to encouraging Township school children and residents to embrace the philosophy of "thinking globally and acting locally". In collaboration with the municipal government, the Board of Education created educational materials describing how to conserve energy, reduce harmful carbon and greenhouse gas emissions and reverse the adverse affects that harmful emissions have already had on the environment. A plan was established to integrate the teaching of our Climate Action Plan strategies into relevant classes at the public schools. This Plan includes science classes, health education classes and others. In addition, various school clubs were tasked to develop public outreach components.

Additionally, the Township was designated a "Green Town USA" by the New Jersey Environmental Lobby, a nonprofit organization that seeks policies which balance economic viability and environmental protection. Green Town USA municipalities must meet criteria which address resource planning and management, air quality, open lands and natural systems and waste management. The Township has also been designated a "Tree City" for five years by the Arbor Day Foundation. Tree City Communities must have a viable tree management plan and program and must meet criteria regarding tree management programs and regulations.

Top: *Installation of solar panels on the roof of the Township's Department of Public Works building*

Middle: *Receipt of ICLEI Award by the Township's former Director of Public Works, Richard Balgowan (second from right)*

Bottom: *Green Town USA logo*

Goals & Objectives

Goal 1: Raise awareness among residents and businesses about global climate change and the sources of climate changing gases through educational outreach and publicizing the Township's sustainability efforts.

Objective 1A: Support the Township's Climate Action Plan.

Goal 2: Encourage the installation of renewable energy facilities as accessory uses in all zone districts by providing appropriate standards for their use and installation.

Objective 2A: Permit renewable energy facilities as accessory uses in all zone districts in a way that is compatible with the character of the area.

Objective 2B: Encourage retail, office and industrial property owners to cover roof tops and surface parking lots with solar structures.

Goal 3: Permit renewable energy production as principal uses in appropriate locations, as well as nonresidential uses which support the renewable energy industry.

Goal4: Encourage development, redevelopment and building renovations to incorporate green building design techniques.

Objective 4A: Encourage energy efficient upgrades to homes, particularly those in rehabilitation programs, in order to reduce costs to residents and reduce the environmental footprint of the Township's housing stock.

Objective 4B: Encourage new construction and building rehabilitation to employ green building design techniques with incentives, such as but not limited to, increases in development intensity.

Objective 4C: Reduce energy needs and light pollution through improved lighting standards regarding light levels and types of fixtures.

Goal 5: Reduce vehicle miles traveled by reducing vehicular travel and the need for transported goods.

Objective 5A: Provide support for and encourage the establishment of locally owned and operated businesses.

Objective 5B: Promote connectivity and use of alternative modes of transportation through an integrated circulation plan that addresses the needs of all users.

Objective 5C: Encourage local food production through farmland preservation efforts and by supporting urban agriculture.

Goal 6: Enhance the Township's green infrastructure so that its benefits may be fully realized, including but not limited to improved stormwater management, flood protection, reduced nonpoint source pollution, increased groundwater recharge, reduced urban temperatures, carbon sequestration and energy conservation.

Objective 6A: Retain existing trees during the development process and require trees to be integrated into site design, including but not limited to along roads and sidewalks and within parking areas.

Objective 6B: Increase the use of green infrastructure, including functional landscaping, to address such issues as stormwater management, urban heat island effect, and the need for wildlife habitat.

Goal 7: Encourage residents and business owners to practice water conservation.

Objective 7A: Promote the use of high-efficiency appliances, such

as water heaters, toilets, dishwashers, low-flow shower heads, and washing machines in the Township.

Objective 7B: Reduce impervious surfaces in the Township by encouraging use of p0rous surface materials and through such techniques as reduced parking ratios and/or shared parking.

Objective 7C: Encourage the use of sustainable landscaping, such as native and adaptive plants and xeriscaping (landscaping or gardening that reduces or eliminate the need for supplemental watering or irrigation).

Goal 8: Reduce the waste generated by households, businesses and institutions.

Objective 8A: Ensure all public spaces and nonresidential and multi-family developments have adequate recycling facilities.

Objective 8B: Encourage composting, including at the Township's Ecological Facility, to reduce waste from households, commercial uses and institutions.

Energy Conservation and Renewable Energy Production

Energy usage is central to any discussion of sustainability. The way we use and produce energy for buildings and facilities is arguably the number one environmental issue today due to its global impact on ecosystems, climate change and international relations. In the United States, buildings alone account for 72% of electricity usage, 40% of total energy use and 39% of all carbon dioxide emissions.[1]

Roof mounted solar panels on a home in Hamilton

The Township completed Greenhouse Gas Emissions reports for municipal facilities in 2007 and 2008. These documents which are an appendix to the Climate Action Plan, show a decrease in energy usage over the 12 month period. The reports analyze municipal buildings, the vehicle fleets, street lights and water/sewage energy demand and

1 United States Green Building Council, Building Impacts presentation. Accessed April 13, 2011. http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1720

shows that between 2007 and 2008, the Township decreased its carbon emissions by 337 tons of carbon dioxide. Based on estimates by the United States Environmental Protection Agency, this equates to the removal of nearly 59 passenger cars annually.[2] Implementation of the recommendations contained in this Green Buildings and Environmental Sustainability Element, particularly this section, will further reduce the Township's carbon emissions. The Township should consider preparing a Greenhouse Gas Emissions report to show more recent reductions.

Aside from a minimal market power from its buying practices, Hamilton Township has little direct influence over the production and transportation of conventional energy sources, such as oil, coal and natural gas. However, the rise of available renewable energy sources has made it easier for households, businesses and communities as a whole to participate in energy policy decisions by choosing to conserve energy and choosing what type of energy powers their home, business, etc. Of course, the other reason many are choosing to conserve energy and utilize renewable energy is cost, particularly in light of recent cost increases in conventional energy sources.

The Municipal Land Use Law has been amended multiple times over the last few years to encourage the installation of renewable energy facilities. Amendments granted solar and wind facilities status as inherently beneficial uses – defined as a use which promotes the health and welfare of a community – and permits solar and wind facilities by right in industrial zones on lots of 20 acres or greater in size. Additionally, renewable energy generation from solar, wind and biomass facilities has been added to those activities protected by the State Right to Farm Act, provided the facility is 1) located on a commercial farm not subject to farmland preservation and 2) the facility does not exceed 10 acres or 2MW maximum production of electricity, provided the acreage of the facility does not exceed a 1:5 ratio of electric facility to farmland. In addition, farms developing electrical facilities not exceeding these limits will remain eligible for farmland assessment for the entire farm including the area under the electrical facility.

Due to physical characteristics, the primary avenue for utilizing renewable energy in this region has been through harnessing the sun's energy and in fact, New Jersey ranks second after California in the siting of alternative energy facilities in an effort to reduce reliance upon fossil fuels. This is consistent with trends in Hamilton's development applications. In 2010, a solar generating facility was approved along South Broad Street and there are others considering sites throughout the southern part of the Township in the Rural Resource Conservation district. The potential conflicts associated with large scale facilities in the nation's most densely populated state are significant and should not be underestimated. It is the intent of this Master Plan Element to identify potential conflicts and set policy for the siting of alternative energy generating facilities. The approving Board may rely upon these policies when analyzing and considering any negative criteria associated with such uses.

2 *United States Environmental Protection Agency, Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks. Accessed April 22, 2011. http://www.epa.gov/oms/consumer/f00013.htm*

Balancing the positive and negative consequences of siting alternative energy generating facilities is key when considering the location, scale, and impacts of the facility. One consideration is the positive tax ratable with little or no associated municipal services required which is created by the development of facilities over 10 acres in size. A down side to such development is the competition created for active agricultural land especially for solar facilities. Small "residential or farm" scale facilities are more easily accommodated into the landscape than large grid scale facilities. As such, standards must be tailored specifically to the intensity of the facility.

Roof mounted solar panels on a Church in Hamilton

Facilities which are accessory to a principle use can easily be accommodated within the standard setbacks of the lot; however, larger scaled accessory uses may require buffering from adjacent residential uses and zones. Grid scale solar facilities, large ground mounted photovoltaic facilities generating greater than 2 megawatts of electricity, are large in size and generate the need for buffering, setback, coverage, site maintenance, and locational standards.

Grid scale facilities may require the siting of new or expanded electrical substations, transformers and bundled overhead wires. The facilities are often fenced for security purposes and effective screening in exposed or hillside locations may be impractical. The facilities are quiet; requiring little maintenance, and typically no municipal services. The State of New Jersey provides substantial financial incentives and has recently eliminated much of the risk associated with investing in grid scale solar facilities. This action, coupled with related legislation has captured the attention of large nationwide investors and created a solar "gold rush" in New Jersey. As a result, grid scale facilities may outcompete agriculture for prime farmland, causing an interruption in the contiguity of agricultural lands.

Regulation of grid scale facilities should consider such topics as contiguity of agricultural lands, location within the Agricultural Development Area (ADA), presence of prime or statewide important agricultural soils, presence of adjacent preserved farmland and open space, presence of important wildlife habitat, visibility from residential uses and public rights-of-way and neighborhood character. The visual impact of such facilities can be mitigated with buffering and installation such that some agriculture can continue beneath them, such as, but not limited to, grazing land for sheep, and/or the land can function as a natural meadow that can serve as wildlife habitat.

Despite the prevalence of proposals for ground mounted solar arrays, roof mounted solar panels are the most desirable type of alternative energy since they provide the most visually unobtrusive form of renewable energy, do not disturb the ground and do not impact the character of a neighborhood. Roof mounted panels are least obtrusive when they are mounted parallel to the roof and do not extend above the roof more than one foot. Accordingly, building owners are encouraged to take advantage of solar power in ways which are not visually intrusive and that can easily be accommodated in the neighborhood landscape.

Cost efficient wind energy is largely not feasible in the Township due to low wind speeds; wind power may be an option for some residential and many commercial sites. Given the mapped wind speeds for our area, a wind turbine set up at least 100 feet from the ground would be needed to supply most of the needed electricity for a typical home. However,

Rendering of Temple University's McGonigle Hall with roof mounted wind turbines

there are small roof-mounted wind turbines that have been developed by several manufactures. These turbines, which generally have diameters of less than 10 feet, offer an alternative method of utilizing wind power that significantly reduce the visual impact typical of wind generation. Issues of location for the various types, including height, of turbines must be carefully considered due to their visual and environmental impacts.

Wind farms designed with clustered towers may have a negative impact on bird and bat flyways; they also have an industrial appearance and are not a compatible adjacent land use to residential neighborhoods. This type of approach probably won't be used in Hamilton due to limited wind resources, but small-scale versions may be considered. If smaller scale wind farms are to be used, a linear approach is recommended. This reduces the industrial character and makes it easier for the birds and bats to fly through.

The Township can encourage its residents and businesses to conserve energy and utilize renewable energy by serving as a positive example. The Township is currently pursuing renewable energy through the installation of solar panels on the roof of the Department of Public Works garage. This installation of 220 solar panels will produce 67kw – 30% of the power needs for that building. The Township should continue to incorporate renewable energy into municipal facilities where appropriate.

Geothermal heating and cooling has received less publicity than solar and wind, in part

due to its longer payback horizons. This Master Plan Element s geothermal energy; however, the regulation of such facilities is more appropriate for the construction code than the Land Use Ordinance.

Another way the Township is serving as a positive example is its retrofit of the Municipal building and Health Department building. These measures, which include light fixture upgrades, will not only lead to energy conservation but will also reduce operating costs. The Township should continue to conduct energy efficiency retrofits and conduct energy audits of municipal facilities as needed. This is consistent with the Climate Action Plan's recommendation for an extended energy efficient infrastructure policy, as well as the Township's Building Energy Conservation Plan. Additional retrofits for consideration include, but are not limited to, solar-powered streetlights and energy efficient healing and cooling systems.

Planting plans should be carefully designed to permit solar access on the subject property and adjacent properties, to the extent feasible. Solar access is defined as availability of (or access to) unobstructed, direct sunlight and is one of the significant determinants of the effectiveness of solar/photovoltaic power. Trees should not shade areas appropriate for solar power, such as south-facing rooftops appropriate for solar power. Property owners who have existing solar facilities or are proposing to install them are encouraged to enter into solar easements with neighboring property owners in order to ensure continuing access to sunlight for a solar facility. Planting plans also should be designed to support passive solar strategies, such as providing shade during the summer months. Planting plans should consider how shadows fall not only on the subject property but also how neighboring properties will affect solar access.

The Township can link its renewable energy policies with those of promoting economic development by encouraging renewable energy businesses involving light manufacturing, assembly, distribution and installation within the Township's nonresidential zone districts, as appropriate. For example, the manufacture and distribution of solar panels are encouraged within the Township's Industrial and Manufacturing districts.

Energy conservation is critical in the discussion of reducing dependence on fossil fuels and reducing the environmental footprint as well as reducing building operating costs and supporting sustainability principles. It is recognized that the Township is constrained in its ability to rely upon passive solar strategies due to its developed character. However, to the extent possible, new construction and redevelopment should utilize passive solar strategies and passive solar strategies should be considered in building renovations. Passive solar design refers to the use of the sun's energy for the heating and cooling of living spaces; it does not involve mechanical or electrical equipment. Building design examples of this include roof overhangs to provide shade in the summer and window glazings to maximize solar heat gain in winter and minimize it in summer. Another aspect of passive solar design, and one which is ripe for land use ordinance regulation, is building orientation to maximize solar heat gain in winter and minimize it in the summer. Buildings can take advantage of passive solar strategies where they are elongated on an east/west axis. It may also require creative placement of roadways. To maximize this principle, blocks should be oriented within plus or minus 15 degrees of geographical east/west, and the east/west lengths of those blocks are at least as long, or longer, as the north/south lengths of the block. Additionally, buildings should be designed and oriented such that the longer axis is within 15 degrees of geographical east/west axis. To

the extent possible, a building's south face should receive sunlight between the hours of 9:00 A.M. and 3:0¬0 P.M. (sun time) during the heating season. To do so, a building should be oriented within 30 degrees of due south. To the extent possible, interior spaces requiring the most light and heating and cooling should be along the south face of the building. Less used spaces should be located on the north. Notwithstanding these principles, it remains important that buildings be oriented toward the street to promote community and create walkable neighborhoods.

Energy conservation goals can also be addressed through careful planting plans. Tree shade reduces summer air conditioning demand, but can increase heating energy use by intercepting winter sunshine. However, this can be mitigated with the use of deciduous trees which will provide shade in the warm months when the leaves are on the trees and will allow sun to filter through during colder months when there are no leaves. Lowered air temperatures and wind speeds from increased tree cover can decrease both cooling and heating demand. Both deciduous and evergreen trees can lower wind speeds and save energy in summer by directly cooling the air. This cooling happens as water evaporates from the leaf surfaces, much as our skin is cooled during perspiration.

To further reduce energy consumption and light pollution in the Township, required lighting levels should be set at the minimum levels necessary for public safety and convenience. This requires setting minimum and maximum permitted lighting levels. Additionally, the Township could consider requiring or encouraging LED (light emitting diode) light fixtures in parking lots and along streets.

Sustainable Circulation Systems

Circulation policies have a significant influence on a municipality's environmental footprint through their impact on vehicle miles traveled. While the Land Use section focuses on compact development and mixed use as a way to reduce vehicle miles traveled, as well as having positive health, social and economic impacts, this section will focus generally on interconnectivity and the principle of complete streets to achieve these goals. Additional information on these topics can also be found in the Circulation Element.

A connected street system has many advantages, including decreased vehicle miles travelled, improved access for emergency vehicles, decreased traffic congestion and more efficient utility distribution. There are several measures the Township could consider to promote connectivity. Most importantly, the creation of cul-de-sacs should be prohibited, unless there are particular circumstances which make connectivity impractical. Additionally, the Township could consider retro-fitting existing cul-de-sacs to provide pedestrian, bicycle and/or vehicle access to nearby streets.

Complete streets policies, those that support the design of streets which enable safe access for all users, including children, seniors and those with physical disabilities, can also decrease vehicle miles traveled and decrease traffic congestion. Additionally, the provision of pedestrian and bicycle facilities can lead to improved public health, such as decreased rates of obesity and diabetes, by encouraging walking and biking and increasing safety by providing safe means of alternative transportation. The need for complete streets is demonstrated by a 2009 National Household Transportation Survey which found that 50% of all trips are three miles or less and 28% of all trips are one mile or less. However, 60% of trips under one mile are made by automobile.[3] These vehicle trips under one mile, as well as those under three miles, are ripe for reduction through the provision of enhanced pedestrian and bicycle facilities. The Township's Bicycle and Pedestrian Circulation Study, completed by Parsons Brinkerhoff in 2011 as part of a technical assistance grant from the New Jersey Department of Transportation provides an analysis of the Township's existing pedestrian and bicycle facilities as well as recommendations to improve them. It is recommended that the policies in this document be implemented in order to make walking and biking more safe and convenient in Hamilton Township and therefore reduce vehicle miles travelled.

Mercerville commercial district along Route 33 which includes a streetscape that is inviting for pedestrians

To reach its full potential, a complete streets policy must be coupled with land use requirements that make walking, biking and mass transit use a pleasant experience. Mobility and circulation planning should have "walk first" hierarchy that emphasizes pedestrian and bicycle access and creates intermodal connections. Employment centers should be encouraged to provide lockers and showers to accommodate bicycle and pedestrian commuters. The streetscape should be interesting and should provide direct access to destinations. This requires that buildings be oriented toward the street with interesting architecture, as opposed to blank walls, and that a functional entrance be accessible from the street with secondary access oriented towards parking lots. As such, parking should be located along the side and rear of buildings. Streetscapes which are inviting for pedestrians and bicyclists include, not only dedicated areas for each as required by complete streets policies, but also street furniture, such as benches for rest, bike parking (racks and lockers based on context and use), trash receptacles, street trees and street lights. Furthermore, barriers between pedestrians and moving vehicles, such as through the placement of street trees, whose species is appropriate for that location, between sidewalks and curbs, will enhance pedestrian safety and comfort. Cross access easements, shared parking, complementary mixed land use, and consolidated driveways are tools that should also be considered to improve access and mobility, minimize turning movement conflicts, and reduce overall parking needs.

3 *National Complete Streets Coalition. http://www.completestreets.org/complete-streets-fundamentals/factsheets/change-travel-patterns/*

Another important component of sustainable circulation systems is multi-use paths, paths which provide shared space for pedestrians and bicyclists. While these paths are often referred to in the context of recreation, they are also a valuable way to reduce dependence on the single occupancy vehicle. In high speed, high vehicle traffic areas, they can provide pedestrian and bicycle facilities which are a safely separated from the vehicle cartway. They can also provide shortcuts between streets and neighborhoods that will potentially make for a more pleasant experience and a more convenient route.

Hamilton Train Station

Sustainable circulation systems must incorporate mass transit. The Township is fortunate to have existing mass transit facilities – including not only Hamilton Train Station, which has one of the busiest stops on the New Jersey Transit Northeast Corridor line to New York City, but the numerous New Jersey Transit bus lines that stop in the Township's neighborhoods and in commercial centers. The County operates a bus route along Route 130, this route – the "Route 130 Connection" – connects the Hamilton Train Station with stops along Route 130 as far north as South Brunswick. Bus ridership, which is heavily dependent on safety and convenience can be increased with conveniently located bus stops that include comfortable waiting areas, lighting and bicycle facilities. Additionally, complete streets policies will encourage mass transit use since bicycle and pedestrian connections to mass transit increases their convenience and access, particularly for those that do not drive. Many trip are "chained", in that they include a mix of walking, driving and transit to get from origin to destination, making safe intermodal connections critical. The Township should work with the bus operators to enhance bus stops, determine if there are opportunities to increase the efficiency of the bus lines and/or to expand the lines to include additional stops and destinations – in particular those that involve the train station.

An additional advantage of a sustainable circulation system is reduced air pollution. Not only do circulation systems which rely in part on pedestrian, bicycle and mass transit facilities produce less greenhouse gasses, they also reduce other air pollutants. In fact, in 2009, 30% of Volatile Organic Compounds (VOCs) and Oxides of Nitrogen (NOx) in New Jersey were projected to come from on-road transportation, such as cars, trucks and

buses, and 63% of this pollution is from cars and light-duty trucks such as small pick-up trucks and SUVs .[4] The Township has taken steps to reduce air pollution, while also combating greenhouse gas emissions. These steps include the Township's green fleet policy which has resulted in many Township vehicles relying upon compressed natural and/or biodiesel, as well as the Township's solid waste collection contractor utilizing compressed natural gas. Additionally, the Township's anti-idling policy further reduces air pollution.

Green Infrastructure & Sustainable Water Resources

In line with preserving networks of open space, the ecosystem within the developed areas of the Township must also be nurtured. The Township can rely on principles of providing green infrastructure as a framework for this. Green infrastructure is defined as an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to the community; it includes, but is not limited to, parks, agricultural lands, many stormwater management devices and street tree networks.

The green infrastructure network in Hamilton Township provides valuable roles in water quality and infiltration as well as wildlife habitat, aesthetic enhancement and air quality. Even the smallest green areas, such as a tree lined street, can help achieve all of these goals. The Township has been creating a green infrastructure network for the past several years, as evident in the tree lined streets and network of preserved lands, parks and greenways along stream corridors and other environmentally sensitive areas.

As recommended in the Open Space and Recreation Plan, the Township should continue to seek preservation of greenways along its environmentally sensitive areas. Continuation of this policy will expand the permanently preserved network of corridors capable of providing water quality and infiltration functions as well as providing wildlife habitat. These greenways represent a significant component of the Township's green infrastructure network. Similarly, the Township can further support a strong green infrastructure network through focusing its remaining development potential on lands that can support compact development, are well served by transportation infrastructure, and are in proximity to employment and service centers. This includes directing the Township's remaining development potential away from productive agricultural lands, environmentally sensitive lands, stream corridors, and wildlife corridors.

4 Rutgers University, New Jersey Agricultural Experiment Station. Pollution Impacts from Vehicles in New Jersey. Accessed April 13, 2011. http://ecocomplex.rutgers.edu/nancy.pdf

Township policies requiring trees along streets and developed portions of a site (such as parking areas) not only support the green infrastructure network but bolster the Township's urban tree canopy. Trees, as part of extensive woodlands and at the small scale of street trees, sequester carbon, reduce ambient temperatures (urban heat island effect) and ozone generation, and increases water infiltration and wildlife habitat, as well as other non-environmental goods such as neighborhood enhancement and pedestrian protection from vehicles when trees are placed between the cartway and the sidewalk. Note that street tree species should be chosen carefully so as not to negatively impact sidewalks and utility lines. These policies are supported by the Township's Shade Tree Advisory Committee and a Community Forestry Management Plan. These policies should continue to be implemented as part of new development and redevelopment.

The existing network would be supplemented with the addition of green roofs and non-structural stormwater management devices which mimic the natural hydrology. While it is outside of the ability of the Township to require such items, they are encouraged as part of the Township's green infrastructure network since they treat runoff, reduce runoff volume and/or recharge groundwater. For example a typical green roof at four inches thick can reduce runoff by 55%.[5] Examples of non-structural stormwater management devices also include bioretention basins, porous/permeable pavement, infiltration trenches, rain gardens and vegetated swales. Many of these non-structural stormwater can be promoted as part of functional landscape design – where stormwater management functions are integrated into planting plans such that they not only serve a purpose but enhance the appearance of the site or streetscape. Residents and business owners should be encouraged to use smaller on-site techniques, such as rain gardens (small bioretention basins), dry wells, porous pavers and rain barrels. If these techniques are used by many people in the community, they can become an effective tool to improving the water quality in the Township. The Township has also retained Rutgers Cooperative Research Extension Water

Rain garden at the Hamilton Township Public Library

5 *The Metropolitan Government of Nashville and Davidson County, Green Infrastructure Master Plan. November 2009.*

Resource Program to conduct a hydrologic analysis of the Township. This analysis will involve a review of ordinances, policies and Township storm water collection systems and will provide recommendations for improved operations.

The Township should seek to reduce impervious cover and break up large areas of impervious cover. One of the largest sources of impervious cover in the Township is parking areas. The Land Use Ordinance should be evaluated for opportunities to reduce the required parking standards, as well as to create incentives to reduce impervious cover in existing and proposed developments. Additionally, porous pavement may be appropriate in some locations to increase water infiltration; however, it is recognized that porous pavement can require increased maintenance.

Example drip irrigation system

Nationally, the average amount of water used by each person is 100 gallons per day.[6] In New Jersey, lawn irrigation consumes nearly half of homeowner water usage![7] The Township may want to consider a water conservation ordinance in order to reduce water consumption. Such an ordinance may target residential and/or commercial water users. It may address such items as, but not limited to, requiring rain sensors to prevent watering during times of rain and/or prohibiting lawn watering during the hottest times of the day when evaporation rates are highest.

The Township, via the Department of Water Pollution Control, has been protecting groundwater resources and reducing the inadvertent treatment of groundwater through replacement of aging sewer infrastructure. This program results in a reduction in groundwater inflow and infiltration into aging infrastructure and the unnecessary treatment of this groundwater by the Township's wastewater treatment facility. In addition to benefitting the Township's groundwater resources, this also reduces chemical and energy inputs by the wastewater treatment plant. Between 2008 and 2010, the annual average flow to the sewer treatment plant decreased by about 38,700,000 gallons and most of this reduction is due to the repairs. The Township should continue this maintenance program so that it may continue to obtain these benefits.

Sustainable landscaping practices provide a number of benefits. The benefits related to energy conservation are discussed in the Energy Conservation and Renewable Energy section of this Element. The Township has recognized these benefits by developing an Integrated Pesticide Management Policy which prohibits the use of certain pesticides in Township parks and playgrounds – the Township declared these areas as pesticide free zones. Plants which are native or adapted to this region are geared toward the local climate and soil conditions. As such, they typically require fewer or no pesticides and fertilizers, which have a positive impact on water quality since the runoff will contain less or none of these inputs, and they are typically compatible with area precipitation rates and therefore require less irrigation, which has a positive impact on water conservation efforts. Sustainable landscaping practices also address watering methods. Property owners can reduce water use by installing drip irrigation rather than sprinklers and installing rain sensors to ensure that plants and lawn areas are not watered when it is unnecessary to do so.

6 *http://www.nwf.org/News-and-Magazines/National-Wildlife/News-and-Views/Archives/2004/Water-Pressure.aspx*

7 *http://plant-materials.nrcs.usda.gov/pubs/idpmsfs5464.pdf*

An additional consideration of sustainable landscaping is the reduction of expansive lawn areas. Lawn areas do not provide good water infiltration and in fact, they can only absorb about a tenth the rainfall as a forested area.[8] Replacement of lawn areas with forest, meadow or naturalistic plantings can also lead to fewer fertilizer and pesticide inputs, therefore positively impacting water quality. This type of landscape design should be considered for large campus-like developments which have significant areas of unoccupied lawn area.

Knowledge and understanding of the Township's water resources should be promoted. Education is a critical component to encouraging property owners to use innovative storm water management techniques and to reduce nonpoint source pollution. The Township's education programs involving water should continue to promote water quality, such as reduction of non-point source pollution and water treatment through such measures as rain gardens, as well as water conservation through such measures as low flow fixtures.

Waste Reduction and Recycling

Reducing waste and increasing recycling, which go hand in hand, are primary components of sustainability and can decrease budget expenditures on waste hauling. Recycling limits waste of potentially useful materials, reduces consumption of raw materials, cuts energy use, reduces air pollution, reduces water pollution and often lowers greenhouse gas emissions — all as compared to production with virgin materials. Consider for example that recycling can conserve 95% of the energy required to manufacture aluminum and from 40-70% of the energy necessary to produce glass, paper, and other metal products.[9] Composting is also an important component of waste reduction strategies, but it is considered distinct from organized recycling programs.

Hamilton's recycling program is handled by both County and Township programs. The Mercer County Improvement Authority (MCIA) provides bimonthly recycling services to all of its municipalities. The MCIA provides single stream recycling for glass, aluminum, several plastics, paper and cardboard. Unfortunately, there are many recyclable materials, such as many plastics, which the County does not accept. The MCIA also collects additional items, such as electronics and chemicals, a few times a year. Additionally, the Township's Ecological Facility on Kuser Road allows residents and businesses to drop a wide variety of recyclable materials such as televisions, concrete, computer equipment, grass clippings, motor oil and brush.

Garbage collection is handled by a company which Hamilton contracts with. Successful waste reduction in Hamilton Township can lead to cost savings since solid waste is billed by weight and the recycling program is billed as a flat rate; as such, if recycling rates increase, the Township will reduce its garbage collection costs while keeping recycling rates flat.

All commercial and multi-family developments should provide adequate recycling space in order to make recycling by the building

8 *US Environmental Protection Agency, Landscaping with Native Plants. http://www.epa.gov/greenacres/smithsonian.pdf*

9 *Association of New Jersey Recyclers. http://www.anjr.com/resources/whyrecycle.html*

occupants and visitors as simple and as convenient as possible. As such, the Township should continue to enforce the solid waste and recycling storage requirements for single family, multi-family and commercial developments. There may also be opportunities for the Township to partner with nearby municipalities or institutions to expand the range of recyclables collected either at a drop-off location or as part of a regular pick-up schedule. The Township may also wish to consider ways to reduce construction and demolition waste, which is a particularly high contributor, in a municipality such as Hamilton where much of new development will be in the form of redevelopment. This could be done through an incentive program and/or mandatory requirements.

Sale and exchange of used goods, such as yard sales, flea markets and organized salvages, are a valuable way to reduce solid waste and provide an outlet for local recycling and reuse efforts. These types of temporary events can be accommodated in neighborhoods and commercial districts while maintaining the character of an area and quality of life when appropriate controls are put in place, such as those related hours and length of operation.

The Township should ensure that all municipal facilities and streetscape designs make full use of the Township's recycling program so that they model leadership in the community. Recycling containers should be located adjacent to trash containers at all municipal facilities, such as buildings, playing fields, and parks, and as part of streetscape furniture.

In the United States, 12.7% of the total municipal solid waste is derived from food scraps.[10] Nearly two thirds of the solid waste stream is comprised of organic materials such as yard trimmings, food scraps, wood waste and paper/paperboard products.[11] A municipality can limit the amount of organic generated by implementing a multi-faceted composting policy. For years now the Township's Ecological Facility has composted yard waste for use by Township facilities and residents. Township residents and business owners should be encouraged to compost their own yard waste and food scraps to reduce their own waste generation, reduce pressure on the Township compost facility and increase the sustainability of their home or business. Residents and business should also be encouraged to leave grass clippings on the lawn when they mow since not only does it cut down on waste but it provides a natural fertilizer for the lawn.

Public education is key to increasing recycling rates. As such, the Township's ongoing recycling announcements can be used to promote reduced waste through educating residents and business owners about the services available at the Ecological Facility (including recyclables collected), benefits of and how composting works and recycling provided by the MCIA.

10 United States Environmental Protection Agency. "Resource Conservation – Common Waste and Materials". http://www.epa.gov/osw/conserve/materials/organics/food/fd-basic.htm (Accessed March 26, 2010).

11 United States Environmental Protection Agency. "Resource Conservation – Common Waste and Materials".http://www.epa.gov/osw/conserve/materials/organics/ (Accessed March 26, 2010)

Sustainable Land Use Patterns

Implementing sustainable land use patterns will reduce energy consumption from vehicle miles traveled by providing a mix of uses in proximity to each other and by ensuring that travelers may rely upon not just conventional vehicular transportation, but also pedestrianism, bicycling and mass transportation to reach their destination. Sustainable land use patterns promote alternative modes of transportation, increased reliance on local goods and services and improved public health. Additionally, sustainable land use patterns which encourage neighborhood-scale building patterns will promote stronger community ties and lower infrastructure costs from reduced street miles and more efficient building patterns.

Sustainable land use patterns are generally defined as 1) focusing development potential toward lands served or which can be served by alternative forms of transportation (i.e. walking, biking and mass transit) and public sewer and water and 2) focusing preservation efforts toward environmentally sensitive and active agricultural lands. Much of Hamilton Township has already been developed or is undevelopable because it is environmentally sensitive or has been preserved as open space or farmland. However, infill opportunities are located throughout the Township in areas such as the Route 130, Kuser Road and Whitehorse Mercerville Road corridors, among others. There are also scattered redevelopment opportunities throughout the Township, such as the East State Street and Route 33 corridors, among others. Infill development has inherent sustainability since it does not rely upon new streets or the extension of infrastructure. Notwithstanding these sustainability benefits, all infill and redevelopment should be compatible with the neighborhood which it is located.

To further protect natural systems, including wildlife habitat and water infiltration, unnecessary site disturbance during development should be minimized. The Township has taken steps to preserve natural features of development sites, such as tree stands and stream corridors.

The most fundamental thing which a New Jersey municipality can do to reduce the energy demand and vehicle miles travelled is to require, where appropriate, compact development which has a mix of uses and is served by alternative forms of transportation (additional policies regarding vehicle miles traveled can be found in the Sustainable Circulation Systems section of this Element). In other words, communities can reduce their environmental footprint by implementing smart growth principles and therefore providing residents an opportunity to drive less since destinations are closer and walking and biking options are available. Policies promoting compact development in appropriate areas, which are coupled with policies promoting preservation of active agriculture and environmentally sensitive lands will allow for continued growth and enhancement in the Township without jeopardizing its environmental resources.

Briarwood shiping center along Kuser Road

Hamilton has a strong foundation in supporting these principles of providing goods and services in or in proximity to neighborhoods in a compact development pattern. The majority of Hamilton's neighborhoods have a density between four and eight dwelling units an acre (5,000 square foot to 10,000 square foot residential lots). Additionally, most neighborhoods are within one mile of a commercial district. The commercial components of these neighborhoods contribute positively to the sense of community and quality of life and reduce vehicle miles traveled. Additionally, supporting the small businesses which are located in these neighborhood centers support goals for economic development and a diverse tax base.

Expanding pedestrian and bicycle linkages, pursuant to the detailed recommendations in the Bicycle and Pedestrian Circulation Study, will enhance the Township's access to the benefits of sustainable land use patterns.

Similar to the benefits of walkable neighborhoods – reduced vehicle miles traveled, increased exercise rates, etc. – a mix of complementary uses are encouraged in employment centers, such as office parks. Providing convenience uses, such as banks, dry cleaners, restaurants and childcare, as well as passive open space in proximity to employment centers will reduce vehicle miles traveled and will also reduce the occurrence of employees leaving the Township for these purposes, therefore providing support for the local economy.

In addition to these environmental benefits from compact development, there are also health, economic and social advantages – all of which have a positive impact on quality of life. Walkable neighborhoods, particularly those which are in or proximate to a mixed use area which offers destinations, can lead to improved public health through increased exercise rates as people walk or bike for enjoyment, employment and/or shopping. Additionally, neighborhoods with compact development patterns typically have a stronger sense of community since they typically have a human scale, which includes homes which are close to the street and, often times, porches – both of which further facilitate neighborly interaction.

Diversity of housing stock, in terms of income and housing type, is also a component of sustainability. Over the years, Hamilton has developed a broad range of housing types. In 2009, 77% of the housing in Hamilton consisted of single-family detached or attached units, 10% of the housing consisted of 2 family homes and multi-family units with three to nine units per building and 14% of housing consisted of multi-family buildings with 10 or more units.

Housing Units (2009 Estimate)

	Estimate	Percent of Total
Single family, detached	23,207	66%
Single family, attached	3,695	11%
2 Family	1,431	4%
3 or 4 Units	1,264	4%
5 to 9 Units	683	2%
10 to 19 Units	3,038	9%
20 to 49 Units	744	2%
50 or more Units	965	3%
Mobile home	34	0%
Total:	35,061	100%

Source: 2005-2009 American Community Survey 5-Year Estimates; B25024. Units in Structure - Universe: Housing Units

Diverse housing types are positive contributions to residential-commercial mixed use areas. Apartments and condominiums not only provide the density necessary to support commercial uses (customers and jobs) and mass transit, but they also provide modest priced, small floor area housing opportunities. Additionally, they can help ensure a mix of ages since they are commonly occupied by young adults or empty-nesters.

Providing community facilities within or proximate to neighborhoods is another important component of sustainable communities. Community facilities, such as parks with passive and active recreation, community centers and municipal facilities are best located in or proximate to neighborhoods to ensure that the maximum number of residents have convenient access to them. They also provide a place for social interaction – for neighbors to get to know each other – and thus contribute toward a sense of community. Additionally, and critical to sustainability, locating these facilities in or near concentrations of users will reduce vehicle miles traveled as visitors will have less distance to travel to reach the facilities and may not need to rely upon a car to do so, particularly when safe, convenient and pleasant pedestrian, bicycle and mass transit access link these facilities to the surrounding area.

Important to sustainability, locally-produced food shrinks a municipality's environmental footprint by reducing the travel required to bring food to a community. Food sys-

Hamilton Township Municipal Building on Greenwood Avenue

Example community garden

tems account for 17% of national energy usage.[12] Local food production can reduce this figure with its lower vehicle miles required for carrying food from the farm to the store or home. Food systems that incorporate fresh locally grown food can offer benefits beyond those related to the environment that include increased access to nutrition, farmland preservation as well as self reliance. However, coupling this concept with economic development and planning goals will bring more benefits to the community. Through land use policies, economic development activities and farmland preservation efforts the Township can have a positive impact on retaining and enhancing local food systems. In the southern, rural part of the Township, large expanses of agricultural lands are common, the Township should focus its efforts on supporting farmers by ensuring that agriculture can be practiced undisturbed and while minimizing impacts on residential neighbors. This can be done through supporting the Township's right-to-farm ordinance and requiring buffers to agricultural lands that reduce the impacts of farming, such as smell or noise, on neighboring lands. Supporting existing farmers is the first step toward supporting local food production.

Example farmers market

Furthermore, the Township can couple economic development strategies with those of local food by promoting distribution of food grown in the Township to Township residents and visitors. An example of this would be permitting farmer's markets on appropriate Township owned lands and permitting them as conditional uses in non-residential districts. Additionally, farm stands for products grown on-site should be encouraged so as to increase convenient access to local food and also support the Township's farmers.

There are numerous community benefits to local food production and supporting the growing movement of "urban homesteading", or victory gardens, where people take food production into their own hands. As such, local food production is encouraged throughout the Township. Examples include not only homeowner production but also community gardens (land which is cultivated by the community and includes garden plots tended by individuals). Community gardens are compatible in open space associated with residential and commercial developments. They should be considered as a recreational amenity in open space, much as other types of passive and active recreation are incorporated into site plans.

12 Pimentel, David and Giampietro, Mario. Food, Land, Population and the U.S. Economy. Accessed April 21, 2009 from http://dieoff.org/page40.htm

Green Building Design

Buildings are responsible for a tremendous amount of water and energy usage as well as raw materials and solid waste. Indoor air quality, a byproduct of a building's design and materials, affects occupants' health. Note that many components of green design, such as water conservation and renewable energy production, are specifically addressed in other sections of this Element. The United States Green Building Council cites that in the United States, buildings account for the following:

- 72% of electricity consumption,
- 39% of energy use,
- 38% of all carbon dioxide (CO2) emissions,
- 40% of raw materials use,
- 30% of waste output (136 million tons annually), and
- 4% of potable water consumption.

The construction methods used in all phases of a development impacts the environmental footprint of not just the site and the municipality, but also that of the State and Nation. However, there is a broad range of green building techniques that can be utilized to reduce the various aspects of that footprint. A sample of green building techniques is listed below.

- Vent all combustion-based equipment
- Install energy-efficient lighting
- Choose eco-friendly paints, sheens, and finishes
- Use low-VOC construction products
- Choose hard, low-formaldehyde floors
- Use reclaimed or renewable materials
- Install a green roof
- nstall water-saving fixtures
- Choose a high-efficiency water heater
- Select energy-efficient equipment
- Minimize site disturbance
- nstall or upgrade insulation
- Provide controls and zoning for HVAC
- Use ceiling fans for natural ventilation
- Install energy-efficient lighting
- Provide rainwater collection system

The vast majority of green building techniques are not prohibitively expensive and, in fact, many are responsible for short term economic savings for items such as, but not limited to, a smaller site area of disturbance and reduced tipping fees (fees for disposal of solid

waste). Long term economic savings can be realized from reduced life cycle costs in the form of lower water consumption and lower energy consumption. Furthermore, reduced energy consumption can also result in the ability to downsize building operation systems such as the mechanical and or electrical systems. In addition to the benefits to the outdoor environment, green building technologies can also improve indoor air quality and worker productivity.

Despite initial costs, buildings that integrate sustainable practices will result in long-term cost savings derived from reductions in energy and water consumption, as well as, waste generation. While the actual additional cost of green building construction is variable, indications are that savings in electricity consumption, waste output and potable water use from green construction results in financial savings in the form of reduced electricity bills, waste collection bills and water / sewer bills.

In order to realize many of these benefits, a "green building" should be designed using a multi-disciplinary and integrated design process – one which relies upon collaboration and synergies between the design disciplines and building systems. This process is key to realizing the cost savings green building design can offer. The consideration of additional costs for green construction, compared to savings over the life of the building, is critical for those that own and operate buildings – including municipalities. Increases in cost may occur due to the following:

- The extent of green construction techniques employed;
- The stage at which green construction goals and techniques are integrated in the building design; and
- The construction team's experience with green construction.

While New Jersey municipalities do not have authority to alter building codes to prescribe such standards as energy and water efficiency, municipalities may provide incentives in the Land Use Ordinances to encourage property owners to utilize green building design techniques. The Township can also continue to provide leadership in this arena by including green building design techniques in its own buildings as upgrades become necessary.

The Township should consider requiring that development applications complete a green design assessment as part of completeness determination. Such an assessment would provide information on what green building techniques are proposed and lays the foundation for a dialogue with developers about what green building techniques are included and excluded from a project and why. Over time, the assessments will provide information on what green building techniques are the most cost efficient and effective in Hamilton. The Township should consider providing assistance to small projects where the assessment might be burdensome.

Implementation Plan

The following action items are recommended for implementation of the Green Buildings and Environmental Sustainability Element of the Master Plan.

1. Regulate and encourage renewable energy production as principle and accessory uses in a manner that maintains agricultural viability, neighborhood character and is consistent with State statutes.
2. Encourage green building design, including energy conservation, to be incorporated into new development and building renovations to the extent possible.
3. Promote street connectivity and complete streets policies in the development of new roads and as part of road improvements.
4. Promote expansion of the Township's green infrastructure network, including, but not limited to, greenways, street tree networks and non-structural stormwater management devices.
5. Promote sustainable landscape practices.
6. Promote the reduction of waste and an increase in recycling rates by Township residents, visitors and business owners.
7. Support compact development patterns which offer a mix of uses which are well served by alternative means of transportation.
8. Promote local food systems through supporting the Township's agricultural industry, as well as small-scale local food production and distributi

SECTION 3

Conservation

HAMILTON TOWNSHIP MASTER PLAN

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.

The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies

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Maps:

Acknowledgements

Funding for the *Hamilton Township Master Plan Conservation Element* was provided by:

The Association of New Jersey Environmental Commission (ANJEC) Smart Growth Assistance Grant Program, funded by the Geraldine R. Dodge Foundation,

The Township of Hamilton, and

The Delaware Valley Regional Planning Commission (DVRPC).

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The impetus for the creation of this document, and its guidance and review, came from the Hamilton Township Environmental Commission.

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Introduction

The Conservation Element, which is optional, is nevertheless a very important part of a municipal master plan. The Conservation Element standards of the New Jersey Municipal Land Use Law (N.J.S.A. 40:55D-28b (8)) establish an environmental framework for every master plan element. These standards call for:

- Appropriate information on energy, open space, water supply, forests, soil, marshes, wetlands, harbors, rivers, and other waters, fisheries, endangered or threatened species wildlife, and other resources;
- Systematic analysis of the impact of each master plan element on the present and future preservation, conservation, and utilization of those resources.

This means that every master plan element should complement the Conservation Element and reinforce justifications for natural resource protection now and in the future. The Conservation Element offers an opportunity to raise awareness of the municipality's important natural resources and to establish appropriate protection policies. And it provides a mechanism for setting up responsible resource management and sustainability over the years.

The analysis and recommendations in the Conservation Element derive from the Hamilton Township Environmental Resource Inventory, which was developed immediately prior to the Conservation Element. The description of a municipality's natural resources, functions, and values found in both the Environmental Resource Inventory and the Conservation Element establishes the environmental framework of the master plan. This information forms the basis for the required systematic analysis of the impact of all the other plan elements on the preservation, conservation, and utilization of natural resources.

Goal 1: Enhance Natural Habitats, Open Space, and Tree Canopy

Objective 1A: Ensure funding for open space

Open space can provide many valuable environmental benefits, including recreation, groundwater recharge, stormwater management, and improved quality of life. Hamilton Township continues to preserve significant open space resources that benefit residents and the overall environment. With limited funding available for land acquisition, continued township financial support is necessary to leverage state funding options.

The Hamilton Township Council voted in June 2001 to establish a trust fund to be used for the acquisition and preservation of open space. This fund has been supported through previous developer contributions and payments from other outside sources. In addition, a $5 million bond was approved by the Township Council in June 2002 to be used for open space acquisition. This bond, however, has been expended entirely. Hamilton Township does not have an open space tax to support preservation.

The practice of requiring developer contributions into open space funding was invalidated by the New Jersey Supreme Court in 2009. Although currently there is adequate funding in the municipal open trust fund, the township can **consider establishing an open space tax** to support future acquisition. Such a tax would likely amount to less than $30 per household. The feasibility of enacting such a tax warrants evaluation. In order to qualify for 50 percent matching contributions from the New Jersey Green Acres program, Hamilton Township is required to have either an open space tax or an alternative funding source equivalent to an annual tax levy. The enactment of a modest open space tax would ensure continued statewide funding for the protection of vital environmental, park, and farmland resources in the township. The Hamilton Township Environmental Commission (“Environmental Commission”) is currently in talks with the Trust for Public Land, which offers a number of services to communities seeking help with new parks and land conservation.

Objective 1B: Create a greenway system along streams

A greenway is generally defined as a linear open space that connects natural, recreational, and cultural points of interest. Greenways are beneficial to both humans and the environment, as they provide open space for recreation, habitat for flora and fauna, and, when located along streams, provide stream buffers and natural stormwater management. A greenway system along the streams of Hamilton would provide these benefits and would help achieve other goals, such as stormwater management.

Plans for a number of proposed greenways have been completed, and Hamilton Township and Mercer County have been very successful in preserving important parcels

in the riparian corridors, particularly along the Crosswicks Creek. However, more can be done to implement these plans and to make the greenways a reality.

Action: Support existing trails and greenways

Hamilton contains a number of existing trails and greenways that could benefit greatly from increased public awareness and education. There are walking trails in John A. Roebling Memorial Park, Veterans Park, the Van Nest Refuge, and Mercer County Park. Hamilton Township contains a section of the Delaware and Raritan (D & R) Canal towpath located along Duck Creek. There are plans to extend this portion of the D & R trail to the south by connecting it to a railroad bridge to cross Crosswicks Creek.

In addition, the vast majority of parcels along Hamilton's southern border with Crosswicks Creek are publically owned by the municipality or the state. Although a formal trail has not been established and much of the land is wetlands, accessible areas on public lands should be identified and promoted. In addition, many areas along Hamilton's northern border with Assunpink Creek have also been preserved by the municipality, county, and state.

With raised public consciousness about the existing trails and publicly owned greenways, support for the creation of additional trails is more likely. The Environmental Commission should collaborate with the Crosswicks Creek/Doctors Creek Watershed Association, the D & R Greenway Land Trust, and the Friends for the Marsh (of the Hamilton-Trenton-Bordentown Marsh) to **increase the awareness, appreciation, and maintenance of trails and greenways** in Hamilton. Depending on the needs, resources, and interests of those involved, this could be done in any number of ways. For example, the Environmental Commission should help promote the educational and recreational programs and activities held at the Marsh Nature and Interpretive Center. The Environmental Commission should also work with nonprofit organizations, community groups, and local schools to help with trail maintenance. The Hamilton Township Department of Public Works will continue to work toward enhancing the usefulness and condition of these trails when possible.

Action: Pursue expansion of greenways and trails

As identified in the 2009 *Open Space and Recreation Plan Update*, Hamilton has set a goal of obtaining an additional 23 miles of open space along its riparian corridors. The Environmental Commission should identify the priority segments to add to the township's inventory. Segments should ideally fill the gaps in existing greenways, as identified in the proposals and plans discussed below.

A number of proposed greenway plans exist that include Hamilton, as described below. The Environmental Commission should **review the documents** and their individual proposals, and continue to implement the greenway plans through **targeted preservation**. The existing and potential greenway trails are illustrated on **Map 1: Greenway Trails**.

There has been much planning and preservation to enable a potential Crosswicks Creek/Doctors Creek Greenway. The Crosswicks Creek/Doctors Creek Greenway Planning Group (a predecessor of the Crosswicks Creek/Doctors Creek Watershed Association) conducted two planning studies for a greenway along the Crosswicks and Doctors creeks. In 2004, the *Crosswicks Creek/Doctors Creek Watershed Greenway Plan* was released, which proposed a greenway along the streams that would protect the riparian corridors and provide recreational trails. As of 2008, only Allentown Borough and Millstone Township had formally adopted the plan. In 2007, the Crosswicks Creek/Doctors Creek Watershed Association released a *Doctors Creek/Assunpink Creek Trail Feasibility Study*, which proposed the creation of a multiuse trail that would connect Doctors Creek in Hamilton to Assunpink Creek in Millstone and Washington townships. The plan identified three trail alternatives along Doctors Creek, and the trail alternative on the south side of Doctors Creek was selected as the preferred alternative. As shown on **Map 1**, the majority of the land in Hamilton Township adjacent to the Crosswicks Creek and Doctors Creek has already been preserved, primarily through the Mercer County open space preservation program. The County is committed to preserving a continuous Crosswicks Creek Greenway, although there are some unpreserved segments remaining in Hamilton Township.

There is much work needed to create an Assunpink Creek Greenway in Hamilton Township, which would connect Mercer County Park with the Trenton Assunpink Greenway. In 2000, DVRPC published *Closing the Missing Link on the Assunpink Creek Greenway*, which refers to the segment of unpreserved land adjacent to the creek in both Hamilton and Lawrence townships. Farther east, preserved lands along the creek have created a continuous greenway from the Assunpink Wildlife Management Area in Monmouth County to Mercer County Park on Hamilton's border. Protecting land and creating a greenway along the creek in Hamilton would leverage the investment being made in Trenton to create an Assunpink Creek Greenway in a former industrial area. Through collaboration between federal, state, county, and local entities, a brownfield site along the Assunpink Creek in Trenton is currently being redeveloped into a 99-acre urban park.

The Environmental Commission should work to identify and recommend future expansions of the township greenways system and to identify potential funding sources for land acquisition where needed. The Environmental Commission should also conduct a **feasibility study of greenways along Miry Run and Pond Run** to identify potential trail alternatives and access points. Like the Crosswicks, the existence of large areas of preserved lands adjacent to both streams facilitates the development of greenways.

An essential first step in greenways implementation is **landowner education** to inform residents about the ecological, economic, and community benefits of greenways. The Environmental Commission should develop informational materials on greenways and their use and importance for Hamilton.

Hamilton Township already has ordinances in place to enable these greenways. The Stream Buffer Conservation Zone ordinance allows unpaved trails, provided they are

stabilized with pervious materials. This ordinance also mandates that conservation easements or deed restrictions be placed on the properties within the zone that would prohibit the clearing of vegetation within the buffer.

To facilitate the completion of greenways, the Hamilton Township Environmental Commission should organize a subcommittee dedicated to the implementation of greenways. It would be essential for this subcommittee to coordinate and collaborate with other municipalities and local organizations, including the Crosswicks Creek/Doctors Creek Watershed Association, (D & R) Greenway Land Trust, and the Friends for the Marsh (of the Hamilton-Trenton-Bordentown Marsh).

Objective 1C: Protect important habitats and open space

There are many areas across Hamilton with exceptional significance for the conservation of rare species and ecological communities. These include three locations that have been identified as being high priority habitats: the Hamilton-Trenton-Bordentown Marsh, the Walnford Floodplain Natural Heritage Priority site, and the Van Nest Refuge Fish and Wildlife Management Area. These three sites are shown on **Map 2: Conservation Areas**. In addition, many areas of upland forest, wetlands, and grasslands have been identified by the Landscape Project as critical or suitable habitat for rare species. The preservation of these areas will ensure that the valuable environmental resources and the natural habitat they provide do not disappear from the landscape.

Action: Preserve and enhance land in identified conservation areas

Of the three high priority habitat areas in Hamilton, only the Van Nest Refuge is currently entirely preserved. This area is owned by the State of New Jersey and is adjacent to the county-owned Mercer County Park.

Most of the Hamilton-Trenton-Bordentown Marsh is preserved, although there are some privately held parcels. The former landfill on Duck Island has been undergoing a remediation by the New Jersey Department of Transportation to be capped, contained, and vegetated. After remediation actions are complete, this area can become a valuable aspect of the protected open space of the marsh. The PSEG Fossil LLC Mercer Generating Station is the largest unpreserved area of the marsh. The Marsh Nature and Interpretive Center at Roebling Park, operated by Mercer County, is an educational hub that offers activities, programs, and nature walks. The Environmental Commission can **collaborate with the Marsh Center** to enhance the awareness and enjoyment of this significant natural resource.

The Walnford Floodplain Natural Heritage Priority site is located on both sides of a portion of Crosswicks Creek in Burlington, Mercer, and Monmouth counties. Within Hamilton, there is a small portion of the floodplain located in the south-easternmost corner of the township. In early 2011, the Mercer County Open Space Preservation Board voted to preserve the Hamilton property that contains the Walnford Floodplain. This property, the Rock Hill Farm, is being preserved through county and state open

space funds. The stream corridor area will be preserved as part of the Crosswicks Creek Greenway, and the remainder of the parcel will be deed restricted for use as farmland.

Action: Preserve Landscape Project habitats

The Landscape Project is an initiative of the Endangered and Nongame Species Program of the NJDEP Division of Fish and Wildlife to document the habitats within New Jersey that are essential for the survival of rare species. It distinguishes between areas considered Suitable Habitat and those that are Critical Habitat of the highest importance. Critical Habitat areas have both a documented occurrence of a threatened or endangered species and a sufficient amount of habitat to sustain these species.

Map 3: Landscape Project Critical Habitat shows the unpreserved and undeveloped (based on tax class) parcels in Hamilton with the highest priority for rare plant and animal habitat. The Critical Habitat areas have documented and sufficient habitat for the cliff swallow, grasshopper sparrow, eastern meadowlark, Fowler's toad, Cooper's hawk, eastern box turtle, or great blue heron. Other areas have been identified by the Landscape Project as Wood Turtle habitat or Bald Eagle foraging areas. The **preservation of these critical habitat areas** will help ensure the survival of rare species in New Jersey. Areas identified as Landscape Project Priority Habitats should be identified as part of any Environmental Impact Statement submitted for a potential development as required by Section 154 of the Hamilton Township Municipal Code. Further potential steps to better protect threatened and endangered species in Hamilton Township should be evaluated and pursued by the Environmental Commission.

Action: Pursue certification of vernal pools

A vernal pool is a depressed area in the landscape that is a pond during part of the year. These ponds are formed by the rising water table of fall or winter, or by the runoff or melting of precipitation. Many vernal pools may be covered with ice during the winter. However, vernal pools tend to be dry by the end of summer. Vernal pools can be found in a variety of landscapes, including meadows, riparian areas, upland forests, wetlands, and coastal areas.

There are some species that depend upon vernal pools for various parts of their life cycle. These are called obligate vernal pool species, and their presence in a body of water indicates that that area is a vernal pool. The spotted salamander is one obligate species that has been identified in Hamilton.

There are seven vernal pool habitats that have been certified in Hamilton, and there are another 78 potential vernal habitats. There may be additional vernal pools that have not been identified yet.

The Endangered and Nongame Species Program of the NJDEP initiated the Vernal Pool Survey Project in 2000 to identify and protect these critical habitats. This project depends upon data collection from volunteers who report data to the NJDEP. After identifying a potential vernal pool location, a volunteer can collect data at the site and submit a vernal pool data form to the NJDEP. These reports are verified by NJDEP staff through a site

visit. Data collected can include a list of species seen or heard, as well as photographic or recorded documentation. The vernal pool must not have a permanent outlet or inlet that would enable fish to populate the pool. A single pool needs to be visited two or three times during the year to record herpetological activity and document the pool's ephemeral nature. These observations are essential for the certification of vernal pools.

Once a vernal pool is certified, state regulations mandate that a 75-foot buffer be maintained around the pool. The **certification of vernal pools** in Hamilton can protect these sensitive habitats and the vulnerable species that depend upon them. The Environmental Commission should work to certify some of the 78 potential vernal pool (depicted in the Hamilton Township Environmental Resource Inventory), particularly those in locations that may be subject to development pressures.

Action: Encourage native plant species

Native plant species are those that are indigenous to a particular region. Native plants are well adapted to the climate, soils, and weather patterns of an area. Native plants require less watering than non-native species, thereby protecting drinking water supply by reducing demand for irrigation. Native plants also require less (or no) fertilizers or pesticides, which are known to have an adverse impact on water quality and public health.

On the other hand, an invasive plant is a non-indigenous species that is known to adversely affect the habitat that it occupies. Over 200 invasive plant species have been identified in Mercer County. Invasive species threaten the biodiversity of Hamilton, as they crowd out native species and subsequently create a ripple effect throughout the township's ecosystems. Invasive species may also release toxins that inhibit the growth of other plants, as well as alter the chemistry of local soils, with long-term consequences for water quality and the health of native species. Some of the more prevalent invasive species found in Hamilton include Japanese knotweed, Japanese stiltgrass (also known as Nepalese browntop), English ivy, and purple loosestrife.

In 2004, NJDEP released a report outlining the issues and concerns surrounding invasive species within the state, as well as recommending control and management techniques. Following the recommendations of this report, the Environmental Commission and the Shade Tree Commission, in collaboration with the Department of Public Works, should **consider the establishment of a municipal invasive species removal program** in Hamilton to help preserve native species and natural habitat integrity. Such a program would serve to coordinate municipal actions against nonindigenous and invasive species within the township. The program should work to identify and eradicate invasive species on all municipally owned open space, and to revegetate these spaces with native flora.

A first step of the program should be an **annual survey of invasive plants**, which would detect problems at a preliminary stage. The Shade Tree Commission, Environmental Commission, and interested volunteers from the community should work together to perform the survey. The survey should include lists of nonindigenous species found, identifications of which species are considered invasive, maps of their locations, and

other related information. A systematic approach to eradicating invasive populations is necessary. Small, new populations should be targeted as the first priority, while established and widespread populations can be targeted over the course of years.

Control and management methods vary greatly depending on the plant species; therefore, it is important that the Township invest in a strong educational component of their invasive species program in order to ensure that the correct methods are employed. In general, the best method to control invasive species populations is prevention, primarily by locating and identifying small communities before they are large enough to become established. Small populations can often be removed manually and do not require the extensive use of herbicides. The Shade Tree Commission and Environmental Commission should seek to **educate local residents to identify invasive plant species** so that populations can be identified and brought to the attention of the Township.

Lastly, certain sections of the **Hamilton Township Municipal Code should be amended** to discourage the planting of invasive species. For example, Section 160:130(a)(13) describes landscaping of parking lots and lists English ivy as an appropriate species to plant, when it is in fact an invasive species. This section could be altered to explicitly discourage the planting of invasive species and to encourage the planting of native species. Applicants can be referred to the Planning Department or the Shade Tree Commission for lists of both invasive species and native species. The Shade Tree Commission has developed a list of appropriate street tree species that will not damage sidewalks. The Shade Tree Commission should review the appropriate sections of the Municipal Code and make recommendations to the Hamilton Township Planning Board ("Planning Board") concerning native plants.

A **Township policy to promote the use of native plants** on all Township lands would set an example for Hamilton residents. Such a policy would state the preference of the Township for the use of native plants.

Objective 1D: Enhance the urban tree canopy

Trees in a community provide shade, natural cooling, and beauty. Trees have been shown to reduce stress, fatigue, and aggression in humans. The presence of street trees has also been proven to have an economic benefit in increasing property values. Street trees also serve to slow, or "calm," traffic. The environmental aspects of trees are incalculable, as they improve air quality, manage stormwater, and provide habitat for animals. Community and urban forestry programs have proven beneficial to the economy, environment, and social well-being of their local communities, and it is important that Hamilton Township continue to develop and improve its urban forestry program.

Action: Implement and strengthen the Community Forestry Management Plan

Hamilton Township has already taken a number of steps to enhance the urban tree canopy through municipal action. It has an active Shade Tree Commission and the

township has been designated both a Tree City USA and Green Town USA. The commission developed a *Community Forestry Management Plan, 2009-2014,* which will be updated every five years. The Shade Tree Commission operates a Residential Tree Planting Initiative to increase the number of trees on residential properties.

The Shade Tree Commission and the Environmental Commission, with the support of the Township administration, should work together to **strengthen the membership and responsibility of the Shade Tree Commission**. While much progress has been made, the Shade Tree Commission would benefit greatly from an increased volunteer base, including greater public participation in its membership. One of the recommendations of the *Community Forestry Management Plan* is to evaluate a streamlining of the shade tree management program. Although it is currently an advisory body, with enhanced membership, the Shade Tree Commission can evaluate ways to better focus resources and provide management of Hamilton's tree resources.

The Shade Tree Commission intends to develop a **township-wide street tree inventory** to document all curbside trees within the right-of-way. Included within the inventory will be the number of street trees, as well as their species and general health. The inventory should also note the locations of particularly large and/or historic trees within the township. This inventory, once completed, can be used as a tool in assessing the existing urban forest and strengthening the urban tree canopy program in the future. Tree inventories are especially useful when developing a Tree Preservation Ordinance. The Township is currently seeking grant funding from the NJDEP Division of Parks and Forestry to begin the street tree inventory. The Shade Tree Commission may want to use i-Tree, developed by the U.S. Forest Service, to create its tree inventory. This free software program is designed to help urban foresters measure, understand, and manage their forest resources, and it provides methods to identify hazardous trees, as well as to calculate the monetary worth of each tree.

Action: Strengthen ordinance to encourage tree preservation

One of the goals of the *Community Forestry Management Plan* is to develop new ordinance guidelines and standards to address current trends. The Shade Tree Commission is currently exploring how to revise and improve the existing tree-related ordinances. Trees in the township are primarily discussed in Section 160-117: Natural Features and Tree Preservation of the Municipal Code. This section requires that a conscious effort be made to preserve all worthwhile trees and shrubs, and it issues rules for the replacement of trees lost to development. This section can and should be strengthened to further articulate the goals of the urban forestry plan for Hamilton Township.

Currently, the tree preservation ordinance requires the planting of 20 trees for every acre of woodland lost, or four trees per lot (whichever is greater). A **revised Tree Preservation ordinance** could do more to encourage the preservation of existing trees and the sufficient replacement of those lost to development.

Hamilton Township should update Section 160-117 to include **Specimen (or Heritage) Tree Preservation**. This ordinance would identify trees of significance to the local community, which are designated as "specimen trees" once their nomination has been approved. Nominations for Specimen Trees are a good way to involve the community in the urban forestry program, as well as to employ local knowledge. Once designated, special protection status is provided for these trees by requiring that permits be obtained before they can be removed or altered.

Action: Promote education for residents on tree health and importance

Another goal of the municipal *Community Forestry Management Plan* is to implement a public awareness program in order to encourage public participation in the protection of public trees, as well as to encourage proper tree care on private property. In order to encourage proper tree care protection on private property, the Shade Tree Commission should **host educational events on proper tree care**. Topics can include mulching, tree watering, tree pruning, and identifying pests and diseases. If taught in concurrence with Shade Tree Commission meetings, these events may help to spur volunteer involvement in the commission.

The Shade Tree Commission can expand education to residents by **enhancing its website to include more information** for interested volunteers and private land owners. The new website could provide free downloadable information guides on a variety of topics, such as tree selection, tree maintenance, and Integrated Pest Management (IPM) for trees. A number of these guides are available through the Arbor Day Foundation and NJDEP Community Forestry websites. Information could also be made available on upcoming events, commission agendas, volunteer opportunities, and links to other urban forestry websites.

Goal 2: Protect Water Resources, Improve Water Quality, and Reduce Flooding

Objective 2A: Plan for watershed restoration

A watershed is defined as the land that drains to a particular body of water. Hamilton Township is located within two different watershed systems: the northern portion of the township falls within the Assunpink Creek watershed and the southern portion is within the Crosswicks Creek/Doctors Creek watershed. The State of New Jersey is divided into 20 Watershed Management Areas (WMAs). Assunpink Creek is within WMA 11: Central Delaware, Crosswicks Creek, and Doctors Creek are within WMA 20: Assiscunk, Crosswicks, Doctors.

A watershed management plan is designed to maintain and improve the overall ecological integrity of a watershed. There are expert sources that can help in the creation

of a watershed management plan, including the Rutgers Cooperative Extension Water Resources Program.

The watershed management planning process first involves the creation of a coordinating committee of stakeholders. The plan analyzes the watershed in terms of its land uses, water quality, and environmentally sensitive areas. Water quality monitoring and assessment data is collected and evaluated. Stormwater management practices, needs, and opportunities are evaluated. Current and potential open space resources are identified. Streams are evaluated based on visual assessments, aquatic life, and chemical monitoring.

A watershed management plan can be the foundation for steps to improve water quality. As a result of a watershed management plan, environmental ordinances can be passed to address sources of impairments. Information and education about the watershed can be shared to raise public awareness and facilitate change, and funds can be sought for environmental restoration projects.

Through the work of the Crosswicks Creek/Doctors Creek Watershed Association, a Watershed Greenway Plan was developed in 2004. This plan addressed not only the creation of a greenway trail, but also identified objectives to protect the cultural and environmental resources of the watershed. These objectives included protecting stream corridors, headwaters, scenic views, and historic resources, as well as creating recreational trails.

The Assunpink Creek watershed does not have a watershed management plan. However, the larger WMA 11 does have an Action Plan—completed in 2003 by Plan Smart NJ—which could be used as a basis for a more detailed Assunpink Creek plan. It is recommended that the Township and the Environmental Commission pursue the **development of a watershed management plan** for the Assunpink Creek watershed with the collaboration of other stakeholders in the watershed, including municipalities, counties, environmental advocates, soil conservation districts, and other partners. There is currently no Assunpink Creek watershed association, although there is an Assunpink Greenway Plan prepared by DVRPC in 2000.

The Township Engineer and the Department of Water Pollution Control plan to work with the Rutgers Cooperative Extension Water Resources Program in conducting a **Municipal Hydrological Assessment**. The Environmental Commission will be consulted as necessary and will review all documents. It is anticipated that this study will analyze the current state of the stormwater collection system in Hamilton, including an assessment of the flood-prone areas of the township. The study will evaluate what measures might be implemented to protect the water resources (both surface waters and groundwater), improve water quality, and reduce flooding throughout Hamilton.

The study will initially evaluate the condition of the existing infrastructure and determine the extent of GIS coverage. In order to optimize the system operations, potential improvements to existing basins and other collection system infrastructure will be evaluated to determine needs and cost effectiveness. The Township's GIS system and

Vueworks (the Township's selected software for asset management) will be utilized to properly define the condition and extent of the storm water collection and control system. The use of New Jersey Stormwater Best Management Practices will be incorporated where possible and modifications to current municipal ordinances relating to stormwater will be made as necessary.

Once the improvements that have been identified in the Municipal Hydrological Assessment have been implemented and the components of the collection system have been optimized, the system will be further evaluated to determine what additional infrastructure might be needed to reduce flooding and improve water quality. All available and relevant studies will be reviewed, including:

- Recommendations of the Delaware River Basin Commission Flood Advisory Committee for More Effective Floodplain Regulations in the Delaware River Basin
- Multi-Jurisdictional Flood Mitigation Plan for the Non-tidal, New Jersey Section of the Delaware River Basin

Ultimately, a township-wide stormwater model should be developed that would allow the Township Engineer and Planning staff to evaluate proposed changes to the system prior to implementation.

Objective 2B: Protect drinking water found in groundwater

Precipitation falling on the land that infiltrates the surface and seeps into the earth forms groundwater. The water moves downward through soil, sand, or rocks until it reaches an impermeable layer. This underground water fills the spaces between gravel, rocks, and other materials. When these gaps and pores are connected, or permeable, then groundwater can flow easily. These permeable underground formations filled with water are called aquifers.

Many residents in Hamilton depend upon groundwater for their drinking water supply. Aqua NJ provides drinking water to Mercerville, Hamilton Square, and surrounding areas by use of five screened wells that tap the Potomac Raritan Magothy (PRM) aquifer. Four of these wells tap the middle PRM and one taps the lower PRM. The Bordentown Water Department also operates four screened wells located in southern Hamilton, which all tap the middle PRM. This aquifer is classified as a leaky confined aquifer with discontinuous layers of clay between the land surface and the well screens (intakes). This means that surface waters (and pollutants) can find a path to the aquifer. In addition, the agricultural area of southeastern Hamilton Township relies upon groundwater for irrigation and other uses.

Protecting groundwater means both ensuring adequate recharge quantity as well as preventing contamination from entering into aquifers. Hamilton Township can work to ensure the supply and safety of its drinking water by properly managing development throughout the township, particularly in potential groundwater recharge areas.

Action: Maintain groundwater recharge

If the amount of water being pumped from an aquifer is greater than the amount of water recharging that aquifer, then the area can experience groundwater depletion. Some devastating impacts of groundwater depletion include the drying up of wells and the reduction of the quality and quantity of water in streams and lakes.

The amount of water that is able to infiltrate the earth and recharge the groundwater depends on a number of factors, including surface water connectivity, soil permeability, presence of wetlands, and degree of impervious coverage (paved or developed areas). Areas with the highest rates of groundwater recharge tend to be undeveloped areas with porous upland soils. Fortunately, well capacity in Hamilton Township has remained relatively constant, and there has been no significant decline in groundwater levels since the 1970s.

Map 4: Aquifer Recharge Potential shows the areas in Hamilton Township with the greatest potential for recharging the aquifers. The pink areas show the outcrops of high-yield aquifers; the PRM aquifer outcrops in a diagonal band across the center of the township and the Englishtown aquifer outcrops in the southeastern corner. The green area shows the outcrop of the Merchantville-Woodbury confining unit, which is not an aquifer. The blue areas show low-yield bedrock formations. Within each color, darker shades indicate areas with higher potential for groundwater recharge.

Both Aqua NJ and the Bordentown Water Department consider aquifer capacity sufficient and stable. Aqua NJ is currently seeking approval to increase well withdrawal rates, and the Bordentown Water Department is evaluating the feasibility for drilling an additional well. However, in order to protect the quantity and quality of drinking water drawn from groundwater sources for future generations, **all developments in areas with high groundwater recharge potential should follow the New Jersey Stormwater Management rules.**

Developments regulated by the New Jersey Stormwater Management Rules are those that are greater than one acre, or which increase impervious coverage by a quarter of an acre or more. One of the nine goals of the Stormwater Management Rules is to “maintain groundwater recharge.” For regulated developments, the design engineer is required to demonstrate that preconstruction groundwater recharge volume is maintained, or that the increased stormwater runoff from the two-year storm is infiltrated. Understanding the nature and locations of high recharge areas in Hamilton can help the Environmental Commission and the Planning Board ensure that groundwater resources are not depleted.

The wells operated by Aqua NJ and the Bordentown Water Department do not currently face capacity problems. However, the Environmental Commission should establish a program of monitoring water levels within this aquifer by periodically reviewing water-level information submitted by both water utilities. In the event that a significant change in water level is detected, the Township Engineer, Director of Water Pollution Control, and the Environmental Commission shall then evaluate the feasibility of developing a

Groundwater Recharge Ordinance. This ordinance would complement and supplement the Statewide Stormwater Management Rules (NJAC 7:8).

Action: Protect Wellhead Protection Areas (WHPAs)

Wellhead protection areas (WHPAs) are delineated areas surrounding public wells where land uses should be regulated to protect water supply from contamination. Potential sources of groundwater contamination include fuels, oils, chemicals, road salts, fertilizers, pesticides, and waste. **Map 5: Wellhead Protection Areas** depicts the public water supply wells and the WHPAs in Hamilton. The WHPAs are concentric rings indicating the two-, five-, and 12-year times of travel to the wells, meaning that pollution within those areas can potentially infiltrate and reach the public well within those time periods. The radius of the WHPA depends on a number of factors related to the well and the underlying hydrogeology.

The five drinking water supply wells operated by Aqua NJ are screened at a depth of 136 to 243 feet below the land surface. Just north of Crosswicks Creek, the Bordentown Water Department operates four wells that are screened at a depth of between 114 and 138 feet below the land surface. Both the Aqua NJ and Bordentown Water Department wells are screened within the middle PRM Aquifer, which is a leaky confined aquifer. There are discontinuous clay layers between this formation and the land surface. Since the confining layers are not continuous, the middle PRM is not completely isolated from surface recharge within Hamilton Township, and pollutants can eventually reach this formation.

Over 9,600 parcels, or over one-fourth of all parcels in Hamilton, are located at least partially within a WHPA. The vast majority of these parcels are residential in use, and none are industrial. All of the WHPAs are also located in the approved sewer service area, so leaking septic tanks are not an issue. However, there are some uses and activities likely to occur in these residential areas that can pollute groundwater, such as spilling automotive fluids, excessive use of fertilizers and pesticides, leaking underground storage tanks or pipes, and excessive use of road salt. In commercial areas of the WHPAs, illegal or accidental discharges of chemicals or fuels from dry cleaning establishments or auto-related businesses can also threaten drinking water wells.

According to Source Water Assessments conducted by NJDEP, both the Aqua NJ and the Bordentown Water Department wells overall have a medium to high susceptibility to contamination. All wells in both systems have a high susceptibility to contamination by nutrients (such as fertilizers) and VOCs (found in gasoline, solvents, and degreasers). Other high risks for some wells include inorganics (like asbestos and lead) and radionuclides (radioactive substances, which may occur naturally).

The susceptibility rating is not an indicator of contamination, although it provides an assessment of potential risk. Currently, both Aqua NJ and the Bordentown Water Department are not experiencing any contamination problems and are within compliance for all regulated contaminants. One Aqua NJ well was impacted by a TCE discharge from an unknown source, although an air stripper is currently remediating this issue and the

TCE levels are acceptable. The Bordentown Water Department system experienced a spike in naturally occurring radionuclides in February 2008, although these levels are currently below the maximum contaminant level (MCL) for all wells.

In order to monitor changes in drinking water quality found in groundwater, it is recommended that the Environmental Commission review the annual Consumer Confidence Report (drinking water quality report) issued by both Aqua NJ and the Bordentown Water Department. In the event that significant changes in water quality are detected, the Environmental Commission, Planning Division, Township Engineer, and Director of Water Pollution Control should review the need for instituting a **Wellhead Protection Area Ordinance**. Hamilton Township does not currently have such an ordinance, although many communities in New Jersey do. This ordinance would regulate certain uses and activities within defined WHPAs, including collection, storage, or disposal of materials that could cause groundwater contamination. Uses and activities with a high risk for contamination could be prohibited, strictly controlled, or considered a conditional use within the WHPA. However, the focus of such an ordinance should be on restricting specific contaminants, rather than on the particular land uses. Certain particular uses can be exempted from the restrictions of the ordinance, such as the storage of fuel used for vehicles.

Remediation of known contaminated sites within WHPAs should be monitored to assess the progress of the remediation and to help ensure that contamination does not reach the drinking water supply wells. There are 17 known contaminated sites (regulated by the NJDEP) that are located within WHPAs in Hamilton Township. As discussed in Objective 3B, the Environmental Commission should track the contamination and remediation status of these sites to assist the mayor and Director of Economic Development regarding potential rehabilitation and reuse of these properties.

Lastly, the Environmental Commission, Aqua NJ, and the Bordentown Water Department should work to **educate residents and property owners within WHPAs** about the nature and importance of these areas in terms of drinking water quality. Informational resources are available through the NJDEP and the Association of New Jersey Environmental Commissions (ANJEC) to educate people on the potential for hazardous materials in these areas to contaminate drinking water supplies.

Objective 2C: Improve water quality and natural stormwater management

The federal Clean Water Act regulates discharges of pollution into waters and regulates water quality standards of surface waters. The Act requires states to submit reports every two years that describe the water quality of their streams and rivers. The lakes and streams of Hamilton all show impairments to water quality, as identified in the *2008 New Jersey Integrated Water Quality Monitoring and Assessment Report* of the New Jersey Department of Environmental Protection (NJDEP), and summarized in the Hamilton Township Environmental Resource Inventory. These impairments are largely caused by excessive stormwater runoff.

Even in highly developed municipalities like Hamilton, stormwater can be managed using environmental features that retain rain water on-site and utilize processes of infiltration and biologic uptake found in nature. Stormwater runoff is the result of precipitation that is not infiltrated into the groundwater, but is instead drained into a nearby water body. With increased development and more impervious surfaces, less water percolates into the ground and more is carried into the surface waters, either through direct runoff or through stormwater outfalls. In addition to flooding, increased stormwater runoff causes water quality impairment for the following reasons:

- Pollutants on the land are carried to water bodies
- Groundwater (aquifers) are not recharged
- Flash-flooding destabilizes aquatic life of streams
- Stream banks are eroded, increasing siltation of water bodies
- Eroded stream banks are less able to filter further stormwater runoff
- Stream bank erosion can expose sewer infrastructure, making it more susceptible to damage and leaks

Using natural features to manage stormwater not only is far less expensive than structural interventions, but it also improves habitats, water quality, public health, and quality of life.

Action: Protect wetlands and floodplains

One way to manage stormwater naturally is to preserve and maintain wetlands and floodplains, which provide natural flood control protection. Wetlands are areas where the soils are saturated with water frequently enough to support vegetation that is adapted to wet soils. Floodplains are flat areas adjacent to waterbodies that are naturally subject to frequent flooding. Both wetlands and floodplains retain stormwater naturally, and the development of these areas increases the frequency and severity of flooding problems.

State, federal, and local laws regulate development within wetlands and floodplains to a large extent. In order for wetlands to be protected, their presence must be established by a letter of interpretation (LOI) by the NJDEP. However, wetlands under one acre in size may be permitted to be developed. Wetlands greater than one acre can also be developed, provided that the loss of wetlands is compensated through mitigation activities. Regarding floodplains, New Jersey protects the flood hazard area, defined as the 100-year floodplain increased by 25 percent.

In the Hamilton Township Municipal Ordinance, Chapter 157: Flood Damage Prevention regulates development within special flood hazard areas in the township. The special flood hazard area is defined as the land in the floodplain subject to a 0.2 percent or greater chance of flooding in a given year. This area is also known as the 500-year flood. Most development activities within the special flood hazard area must be approved by the Township, which evaluates the impact of the proposed improvement to the public and the natural environment. This ordinance also prohibits hazardous uses and critical facilities from being located within the floodplain. **This ordinance should be reviewed by the**

Township Engineer to confirm that it is in compliance with the most recent NJDEP regulations.

Map 6: Wetlands and Floodplains depicts areas containing wetlands and floodplains. By maintaining vegetated open space on these areas, stormwater can be retained and the amount of runoff entering streams will not increase. **Land preservation** is the most effective way to ensure that these natural stormwater management areas are maintained. Were these parcels to be developed, **low impact development** strategies should be utilized to concentrate development in non-sensitive areas, while keeping floodplains and wetlands free from development. The **North American Wetlands Conservation Act** provides matching grants to organizations and individuals to implement wetlands conservation projects that involve long-term protection, restoration, and/or enhancement of wetlands and associated uplands habitats.

Action: Protect stream buffers

The current Stream Buffer Conservation Zone of the Hamilton Township Municipal Ordinance of (Section 155-10) regulates development within 75 feet of surface waters, including streams (both intermittent and perennial), lakes, ponds, and reservoirs. This ordinance regulates the siting and engineering of developments within this defined zone. The stream buffer conservation zone adjacent to Category 1 streams is 150 feet in Hamilton Township.

The Flood Damage Prevention Ordinance of the Hamilton Township Municipal Code (Section 157-31) also notes that a state permit from NJDEP is required for developments within 50 feet of the channel bank of the following waterways: those containing acid-producing soils; those classified as Category 1, FW-1 trout associated, or FW-2 per NJDEP standards; and those that provide critical habitat supporting threatened or endangered species at any time during their life cycle (including documented historic habitat).

However, state regulations require a 300-foot setback from streams, which supersedes the municipal standard. In Hamilton Township, the only Category 1 waterway is located within the Van Nest Refuge, which is already protected from development. **Map 7: Stream Buffers** shows the portion of Assunpink Creek that is defined as Category 1.

The stream buffer conservation zone adjacent to all other areas in the township is a minimum of 75 feet in width. However, the New Jersey Flood Hazard Area Control Act Rules (N.J.A.C. 7:13) require a buffer of 150 feet (measured from the stream centerline) adjacent to the following types of waterways:

- Trout-supporting streams (not applicable to Hamilton Township)
- Any segment of a water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the regulated water for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the regulated water
- Watercourses that flow through areas that contain acid-producing soil deposits

The list of threatened and endangered species critically dependent on regulated waters for survival includes a number of species that are found in Hamilton Township. One species, the wood turtle (*Clemmys insculpta*), has critical habitat along much of Pond Run according to the Landscape Project. These areas are shown on **Map 7: Stream Buffers**. This list also includes the threatened and endangered plant species pawpaw (*Asimina triloba*), pale Indian plantain (*Cacalia atriplicifolia*), wafer-ash (*Ptelea trifoliate*), and the death-camus (*Ptelea trifoliate*). The Natural Heritage Program identifies locations of rare plants and ecological communities on grid maps that show a general area, but are not geographically precise enough to protect these sensitive populations. Each grid cell is between 358 and 372 acres in size. Portions of streams located in grid cells containing documented rare plant species as identified by the Natural Heritage Program are shown in **Map 7: Stream Buffers**.

Much of Hamilton Township also contains areas containing acid-producing soil deposits, as these types of soils underlie much of the Coastal Plain. The likelihood that acid-producing soils will be exposed is a function of the elevation of the landscape, with acid-producing soils being closer to the surface in lower elevations. In Hamilton, the following acid-producing formations are exposed in the southeastern half of the township: Magothy, Merchantville, Woodbury, and Englishtown. These and other geologic formations are depicted in the Hamilton Township Environmental Resource Inventory. The streams located where these acid-producing formations are exposed are shown in **Map 7: Stream Buffers**.

To ensure compliance with these statewide regulations, as well as to better manage stormwater and protect water quality, it is recommended that the Township Engineer **review the Stream Buffer Conservation Zone**, along with the Flood Damage Prevention Ordinance, to ensure compliance with the most recent NJDEP regulations. **Map 7: Stream Buffers** shows all streams in Hamilton Township that require either a 300-foot buffer (Category 1) or a 150-foot buffer (wood turtle habitat, rare plant habitat, acid-producing soil deposits).

Action: Restore streambanks

The Environmental Commission should consider the potential for establishing a **streambank restoration program** to evaluate the stream conditions that currently exist, identify priority locations for restoration, and conduct ongoing monitoring of the health of the streams. Restoring waterways through natural stream design practices can strengthen and reinforce the stream banks, while maintaining habitat, vegetation, and ecological integrity.

The first step of a streambank restoration program is an evaluation of the current stream conditions through the township. There is a range of different stream restoration approaches, and it is important to select the appropriate practice based on the conditions of the channel and the surrounding area. The *USDA Stream Visual Assessment Protocol* can help in field assessments of stream impairment. Through this evaluation, stream segments can be individually identified and classified based on their level of degradation.

Restoring riparian corridors is most effective when the entire stream is the focus, rather than individual segments. However, restoration projects typically occur gradually over time. The Environmental Commission should conduct periodic walks along streambanks after heavy rain events to document where litter, runoff, and sediments accumulate. These recorded observations should then be used to identify locations where streambank restoration programs would be beneficial. Prioritizing stream segments for restoration can be based on three factors: level of degradation, public accessibility (with public lands prioritized), and location in basin (with headwater streams prioritized).

In addition to visual assessments, other factors of stream health should also be monitored as part of a streambank restoration program. This includes aquatic biota monitoring, which is typically measured by the population of benthic macroinvertebrates, as well as fish species. The health of the aquatic biota can be measured by the number of species present (richness), the abundance of individuals within each species (diversity), and their relationship in the stream continuum concept (trophic assemblage). Another element of this program would be water quality/chemical monitoring. Parameters to be evaluated include temperature, dissolved oxygen, pH, turbidity, conductivity, nitrates, nitrites, total phosphorus, total dissolved solids, total suspended solids, chemical oxygen demand, biological oxygen demand, fecal coliform, total copper, total lead, and total zinc. Continual monitoring of aquatic biota and chemicals over a period of years will show the impact of the stream restoration work in reestablishing natural stream ecology.

Once an evaluation is complete, the Environmental Commission can determine whether there are available sources of funding or volunteers for a streambank restoration program. Such programs offer an ideal opportunity to involve residents and local organizations in the environmental initiatives of the township. With some minimal training, volunteers can conduct river assessments to note disturbances to the stream bank. Once the problems and solutions have been identified by the lead organization and/or trained volunteers, many existing streambank programs can rely on volunteer events to conduct the physical restoration of the streambanks, including re-vegetation and clean-ups. Streambank restoration groups often partner with scout groups, youth clubs, and associations, as well as local companies and educational institutions.

A municipally supported streambank restoration project can be an integral aspect of the Phase II Stormwater Program and other regulatory programs. The support to operate a monitoring and restoration program can come from a variety of sources. One major source of funding is the **Section 319(h) grant program**, established by the federal Clean Water Act. This funding can be used for technical assistance, financial assistance, education, training, technology transfer, demonstration projects, or monitoring in order to improve nonpoint source pollution. The Environmental Commission, with the support of the Hamilton Township administration, can consider applying for this program to restore the health and beauty of its streams.

The Environmental Commission can also consider listing priority streambank restoration projects on the **Partnership for the Delaware Estuary Regional Restoration Initiative Project Registry**. Hamilton Township is located entirely in the Upper Estuary Region of

the Delaware Estuary, so restoration projects within the township can qualify for listing on the registry and other support and promotion by the Partnership for the Delaware Estuary. Projects can include traditional habitat restoration, enhancement, creation, or protection activities.

Another potential way to fund streambank restoration projects is to consider them as mitigation projects. The Planning Division, Township Engineer, Department of Water Pollution Control, and Environmental Commission can consider the feasibility of **amending the Mitigation Plan section of the Hamilton Township Stormwater Management Plan** to allow these projects to qualify as a mitigation project. A mitigation plan is required when a development is granted an exemption from the municipal stormwater design and performance standards. Currently, a mitigation project could involve the retrofitting or repair of an existing municipal stormwater facility, such as a basin, inlet, or outfall. Since streams have natural stormwater management functions, their restoration should be eligible as compensation for stormwater impacts due to development. Mitigation opportunities can also be addressed in the municipal hydrological assessment.

Other municipal streambank restoration programs have also relied on **funding from local corporate and business sponsors**. Donations could be accepted through a website donation link and could be collected for the overall program or for specific streambank projects. For example, a local Target sponsored a one-day volunteer streambank restoration event for one municipality. For this method of funding, it is helpful if the organization running the streambank restoration program is a certified nonprofit so that the donations are tax deductible.

Objective 2D: Improve stormwater management infrastructure

An important step in improving stormwater management in Hamilton Township is to develop a comprehensive inventory and evaluation of the current infrastructure. There may be many opportunities for improving the existing facilities to better manage stormwater quantity and quality.

Action: Evaluate status of current stormwater management infrastructure

As part of the proposed municipal hydrological assessment, areas that experience flooding and other stormwater problems will be identified. A **comprehensive inventory of stormwater management infrastructure** should be developed as part of the municipal hydrological assessment. This inventory should include basins, outfalls, inlets, and other facilities in the township. The exact locations can be mapped using GPS technology. Part of this inventory can include assessments of the conditions of the facilities to identify any problems that may exist. This inventory could also include water quality sampling at outfall locations. This database can be the foundation for future capital improvement priorities regarding stormwater. The Hamilton Township Division of Engineering has a preliminary inventory of outfalls in the township, as required by the

statewide Stormwater Management Rules, which can be used as the basis for a more comprehensive inventory and GIS map.

In areas with flooding problems, the existing stormwater facilities should be especially examined and assessed. Where possible, these facilities should be modified to better manage stormwater and improve water quality. For example, existing basins may be able to be retrofitted to improve both ecological and stormwater functionality. Basins and outfalls may be able to be redesigned with added vegetation, re-grading, wetland components, and other improvements. These improvements would not only reduce flooding and improve water quality, but could also add to the economic and aesthetic value of the surrounding area.

Goal 3: Protect Public and Environmental Health from Pollution

Objective 3A: Foster sustainable practices for agriculture, gardens, and landscaping

In managed areas like farms, gardens, and landscaped areas, sustainable practices can ensure that the productivity and attractiveness of these lands do not have to conflict with environmental health. Every aspect of the growing process can be evaluated for its environmental impact regarding water conservation, stormwater runoff, fertilizers and pesticides, wildlife protection, and other issues. For example, the inherent suitability of the soils and climate should inform decisions on plant selection and irrigation need. All uses of pesticides and fertilizers should be scrutinized to reduce the amount of harmful chemicals and excessive nutrients entering the environment.

Although much of Hamilton is highly developed, the southeastern section of the township is still agricultural in nature. According to farmland assessment data collected by the Mercer County Board of Taxation, there is a variety of agricultural production being practiced in Hamilton, including field crops, vegetables, orchards, cattle, dairy, and horticulture (including Christmas trees). There are no certified organic farms in Hamilton, although nearby organic farms are located in Lawrenceville, Chesterfield, and Hopewell.

The Cooperative Extension of Mercer County offers programs and services to agricultural producers in the county, including home gardeners. One project of the Cooperative Extension is the Master Gardeners of Mercer County. The Master Gardeners is a volunteer organization that provides horticultural information through special programs, a helpline, and community events. Part of its mission is to encourage environmentally responsible gardening and pest management.

Managed areas like school grounds, parklands, residential lawns, and other landscaped open spaces are also part of the natural environment of Hamilton. Sustainable landscaping can include planting native and drought-resistant vegetation, attracting beneficial insects, utilizing compost, and seeking alternatives to traditional fertilizers and

pesticides. Because native plants are naturally adapted to the local climate, they require fewer pesticides, fertilizers, or watering to maintain. Additional benefits include water-use reduction, increased habitat for native flora and fauna, a reduction in soil erosion, and increased stormwater absorption.

Action: Expand practice of Integrated Pest Management (IPM) on public lands, school grounds, and agriculture

The environmental and public health impacts of pesticides can be devastating. At elevated levels, pesticides have been shown to be toxic or harmful to all forms of plant and animal life. For humans, exposure to pesticides has been associated with asthma, cancer, development and learning disabilities, nerve and immune system damage, liver or kidney damage, reproductive impairment, birth defects, and disruption of the endocrine system. The NJDEP Pesticide Control Program conducts a statewide agricultural pesticide survey every three years. The most recent available survey (2006) reported that Mercer County was in the middle-range of pesticide use levels.

An alternative to pesticides is Integrated Pest Management (IPM), which is a systematic approach to pest management that utilizes knowledge of the life cycles of pests and their interaction with the environment. IPM involves evaluating a site for identification of a pest problem and recognizing a threshold for when action is necessary. IPM takes into account biological, mechanical, physical, and chemical pest control methods before selecting the best alternative. The first action steps should be manual removal or nonchemical treatment of the pest. IPM is considered by the EPA and the NJDEP as the safest and most cost-effective option for pest management.

The Hamilton Township Council adopted an IPM policy in 2009 (Resolution #09-387), which stated that IPM is to be the pest control strategy for the maintenance of all public properties and facilities. This resolution encourages all citizens to make every effort to participate in this policy on their private properties. However, the policy specifies that only lands in the Hamilton Township Parks System are to be managed using IPM. Within municipal parks, “Ladybug Zones” have been designated where IPM is to be used. These zones are primarily areas used heavily by children and dogs, such as playgrounds. It is recommended that Hamilton Township **expand the use of IPM on lands owned by the municipality** where feasible. This includes all areas of Township parks, non-park Township-owned public properties, and the grounds of municipal facilities.

IPM is the preferred pest control management strategy for all schools in New Jersey, as outlined in the NJ School Integrated Pest Management Act signed into law by Governor McGreevey in 2002. The law requires that public, private, and charter schools with grades prekindergarten through 12 must develop IPM plans that combine pest control, building maintenance, and sanitation practices. This law encourages the use of low-impact pesticides and requires notification before applications. However, the 2002 act does not cover colleges, universities, or day care centers. Hamilton Township should takes steps to ensure that all schools covered by the act are following IPM standards, and should also work with non-applicable facilities like day care centers to encourage the use of IPM. Hamilton Township can **encourage day care centers to use IPM and**

discourage the use of pesticides at all schools. This is especially important considering that children are some of the most vulnerable to health risks from pesticides. The Rutgers Cooperative Extension Pest Management Office has a School IPM website that provides comprehensive information on policies, resources, training, and strategies for implementing an IPM approach at schools. The NJ Environmental Federation also promotes IPM Pesticide Free Zones through its Healthy Schools and Towns initiative, which has additional information and resources available. A bill proposed in the New Jersey Senate, "The Child Safe Playing Field Act," would prohibit the use of most lawn pesticides at public and private schools and day care centers, but this has not been passed at the time of this writing.

Agriculture is the largest user of pesticides, and farm workers can have a very high risk of exposure to pesticides. Many farmers in the U.S. are beginning to adopt "ecological pest management" tactics, which involve mimicking natural relationships among various species to control unwanted pests. The Cooperative Extension of Mercer County works to inform farmers on IPM practices on agricultural lands. The Rutgers Cooperative Extension Pest Management Office also provides IPM information targeted for different types of crop production, including fruits, vegetables, and horticulture. The New Jersey Information Network for Pesticides and Alternatives Strategies is a grant-funded network, run by the Rutgers Cooperative Extension, which disseminates information about current and transitional pest management strategies within the state. Two federal programs to encourage reduction in pesticide use on farms are the Strategic Agricultural Initiative and the Source Reduction Assistance Program. Grants are available for farmers transitioning to IPM through the Sustainable Agriculture Research and Education program, an initiative through the National Institute of Food and Agriculture. The Environmental Commission can **collaborate with the Cooperative Extension** to develop ways to better serve Hamilton farmers willing to pursue IPM or other sustainable agricultural management practices.

Action: Encourage environmental restoration on agricultural lands

Another aspect of sustainable growing is the conservation of streambanks, wetlands, and other natural areas, particularly on farms. Runoff of excessive nutrients, pesticides, soils, and animal waste from farms is one of the most serious threats to water quality in the country. In addition to reducing the risk of pollution at the source through modifying farm practices, restoring natural areas can help prevent the environmental damage caused by runoff and erosion.

There are numerous federal and state programs that provide financial and technical assistance to farmers to preserve and enhance riparian corridors, grasslands, wetlands, and other natural areas. These include the Conservation Reserve Enhancement Program, Wetlands Reserve Program, Grassland Reserve Program, Wildlife Habitat Incentives Program, Environmental Quality Incentives Program, Conservation Stewardship Program, Farm and Ranch Lands Protection Program, and the Partners for Fish and Wildlife Program. Most of these funding opportunities for ecological conservation are programs of the Natural Resources Conservation Service (NRCS), an agency within the United States Department of Agriculture (USDA). The NRCS has a

service center in Freehold that serves municipalities in Mercer, Monmouth, and Middlesex counties. The Environmental Commission or other municipal or civic organizations can **collaborate with the Cooperative Extension and the NRCS office** to encourage utilization of these programs to preserve the environmental resources on agricultural lands.

Action: Encourage sustainable lawn care for residents

Encouraging IPM and natural landscaping methods for private residences begins with education. Residents can employ IPM through pest prevention, safely and correctly using pesticides in spot treatments, safely disposing of leftover pesticides, and other IPM techniques. Natural landscaping should be encouraged by the Township as the preferred method for residential landscaping and gardening.

The Master Gardeners of Mercer County website offers a number of factsheets on topics ranging from weed management and pest control to using wildflowers and planting in the shade. Additionally, the Master Gardeners organization also offers educational outreach efforts and assists community groups in establishing local educational programs. Of the special educational programs offered by the Master Gardeners of Mercer County, many address IPM practices and how home gardeners can utilize them. The Environmental Commission or other municipal or citizen groups or individuals can coordinate with the Master Gardeners to **promote these IPM programs**. A collaboration could also encourage such programs and educational events to be held at facilities in Hamilton Township to make them more accessible for residents. The Master Gardeners also runs an Educational Garden in Pennington that features compost bins, native plants, and a weed identification garden. The Environmental Commission and the Department of Public Works could collaborate to explore **creating a similar demonstration project** in one of the Township's public parks or school grounds.

Objective 3B: Encourage awareness and remediation of known contaminated sites

Known contaminated sites are locations containing known or potential contamination affecting soils or groundwater. These sites are also known as brownfields. The impact of contamination can spread far beyond the designated site when pollution enters the air, groundwater, and surface waters.

As of August 2010, there were 99 known contaminated sites located in Hamilton. There are another 244 closed known contaminated sites in the township, where remediation activities have taken place. Remediation can involve a removal of contaminated material, capping and containment, or ongoing monitoring of the site.

Action: Increase awareness of known contaminated sites

The Environmental Commission should **track the status of known contaminated sites** in Hamilton in order to remain aware of these sites and any potential environmental

impacts they may have. These sites can be tracked for their remediation status, monitoring and sampling data, and any potential risks they may pose.

Status information on known contaminated sites can be found on the NJDEP website within the Data Miner search tool for Open Public Records Act (OPRA) information. The site information available through this search tool includes enforcement actions, inspections, license status, permits, and violations. More detailed site information, including testing results and remediation activities, may be obtained by contacting the case manager for each site. The name and phone number of each case manager is available from Data Miner. The Environmental Commission could consider compiling detailed information on each site and making this public data available on the township website. The Environmental Commission could also prepare semi-annual and event-driven reports to the mayor and Director of Economic Development on the status of all known contaminated sites.

Although the state has the authority for the listing and management of known contaminated sites, all remediation actions must now be reported to the clerk of the township in which the site is located. This reporting allows for local input and knowledge of actions pertaining to each site. Although the municipality lacks enforcement authority of contaminated sites, recent court decisions have tended to place liability on local government if an unremediated site is approved by local boards for reuse. In its review of development applications, the Environmental Commission should consider the presence and potential impacts of any known contaminated sites on or near the proposed development.

Action: Encourage rehabilitation and reuse of sites

Hamilton Township currently encourages the remediation and reuse of its known contaminated sites. The Hamilton Township Economic Development Advisory Commission and the Redevelopment Agency support redevelopment of existing sites instead of new construction on undeveloped land. These agencies should continue to be involved in **applying for remediation funding** on behalf of the municipality and **promoting incentives for redevelopment**.

One statewide source of funding is the Hazardous Discharge Site Remediation Fund, which offers grants and loans for the remediation of hazardous sites. The New Jersey Environmental Infrastructure Trust also offers low-interest loans for different types of environmental projects, including brownfields remediation.

The Brownfields Development Area Initiative is a project by the NJDEP to develop remediation and reuse plans for municipalities with multiple brownfields. Under the New Jersey Brownfield and Contaminated Site Remediation Act, a developer that enters a redevelopment agreement may potentially recoup up to 75 percent of the cleanup costs of the site. There are also certain liability protections available to individuals who wish to acquire contaminated properties.

Residents can address the pollution caused by antiquated underground storage tanks on their properties through the Petroleum Underground Storage Tank Remediation, Upgrade and Closure Fund. Currently, this program only funds unregulated tanks, which includes residential heating oil tanks.

Objective 3C: Encourage awareness and monitoring of local air pollution

The Clean Air Act was passed by Congress to protect public health and the environment from the dangers of air pollution. The Environmental Protection Agency (EPA) implements programs to address three types of air pollution:

- Ambient air pollution causing smog, haze, and acid rain
- Toxic air pollution known to cause or suspected of causing cancer and other problems
- Chemical air pollution destroying the ozone layer

All stationary sources with potential or actual emissions of air pollutants are required to obtain permits from the NJDEP. Title V of the Clean Air Act requires certain major facilities producing potentially harmful air emissions to obtain operating permits. There are over 300 such major facilities in New Jersey. In addition, there are over 17,000 non-major facilities in the state with preconstruction permits for new or modified sources of air pollution.

In addition to permit requirements, certain major facilities are required to submit annual emissions statements that report the amounts of air contaminants emitted every year.

Action: Track local sources of air pollution

There are over 150 facilities in Hamilton with air permits. All but two of these involve preconstruction permits for non-major new or modified sources of air pollution. Many of these are for gasoline dispensing, boilers or heaters, emergency generators, and dry cleaning. However, there are two major facilities with operating permits regulated under Title V of the Clean Air Act. These are the Congoleum Corporation (PI: 61055 and 61056) and the PSEG Fossil LLC Mercer Generating Station (PI: 61057). These two facilities, in addition to Consumers Oil Corporation (PI: 60029), are also required to submit annual emissions statements.

It is recommended that the Environmental Commission **monitor the status of operating permits and annual emissions statements** for the township and provide an annual report for the mayor. Relevant information on these facilities can be found through the NJDEP Data Miner search tool. Additional data may be available through the EPA's Enforcement and Compliance History Online (ECHO) search tool (www.epa-echo.gov/echo). ECHO provides Clean Air Act data, including Toxics Release Inventory and National Emissions Inventory data. The Mercer County Health Department handles air pollution issues under the County Environmental Health Act, and any complaints or concerns regarding air pollution can be addressed to that department.

Summary Tables

Goal 1: Enhance Natural Habitats, Open Space, and Tree Canopy			
Objective	**Recommended Action**	**Potential Step**	**Municipal Leaders**
Objective 1A: Ensure funding for open space	Consider establishing an open space tax		Environmental Commission; Planning Division; Municipal government
Objective 1B: Create a greenway system along streams	Support existing trails and greenways	Increase the awareness, appreciation, and maintenance of trails and greenways	Environmental Commission; Department of Public Works
	Pursue expansion of greenways and trails	Review existing plans and pursue land preservation or easements	Environmental Commission; Planning Division
		Conduct feasibility study of greenways for Miry Run and Pond Run	Environmental Commission; Planning Division
		Landowner education	Environmental Commission; Planning Division
Objective 1C: Protect important habitats and open space	Preserve and enhance land in identified conservation areas	Collaborate with the Marsh Center	Environmental Commission
	Protect critical habitat for rare species	Landscape Project habitats land preservation	Planning Division; Municipal government
	Protect vernal pools	Pursue certification	Environmental Commission
	Encourage native plant species	Consider the establishment of a municipal invasive species removal program	Environmental Commission; Shade Tree Commission; Department of Public Works
		Annual survey of invasive plants	Environmental Commission; Shade Tree Commission; Department of Public Works

		Educate local residents to identify invasive plant species	Environmental Commission; Shade Tree Commission
		Amend municipal code to discourage non-native plants	Environmental Commission; Shade Tree Commission; Planning Division; Municipal government
		Consider a municipal native plant policy	Environmental Commission; Shade Tree Commission; Municipal government
Objective 1D: Enhance the urban tree canopy	Implement and strengthen the Community Forestry Management Plan	Strengthen the membership and responsibility of the Shade Tree Commission	Shade Tree Commission
		Conduct township-wide street tree inventory	Shade Tree Commission
	Strengthen ordinance to encourage tree preservation	Consider revision of Tree Preservation ordinance	Shade Tree Commission; Environmental Commission; Planning Division; Municipal government
		Add Specimen (or Heritage) Tree Preservation	Shade Tree Commission; Environmental Commission; Planning Division; Municipal government
	Promote education for residents on tree health and importance	Host educational events on proper tree care	Shade Tree Commission
		Enhance the Shade Tree Commission website	Shade Tree Commission

Goal 2: Protect Water Resources, Improve Water Quality, and Reduce Flooding			
Objective	**Recommended Action**	**Potential Step**	**Municipal Leaders**
Objective 2A: Plan for watershed restoration	Plan for watershed restoration	Develop Assunpink Creek watershed management plan	Environmental Commission; Planning Division
		Conduct municipal hydrological assessment	Township Engineer; Department of Water Pollution Control; Planning Division; Environmental Commission
Objective 2B: Protect drinking water found in groundwater	Maintain groundwater recharge	Ensure compliance with statewide rules regarding groundwater recharge	Township Engineer; Environmental Commission; Planning Division; Planning Board
		Consider feasibility of groundwater recharge ordinance	Environmental Commission; Planning Division; Township Engineer; Municipal government
	Protect Wellhead Protection Areas (WHPAs)	Consider Wellhead Protection Area ordinance	Environmental Commission; Planning Division; Municipal government
		Remediation of Known Contaminated Sites within WHPAs	Environmental Commission; Economic Development Advisory Commission; Redevelopment Agency
		Educate residents and property owners within WHPAs	Environmental Commission
Objective 2C: Improve water quality and natural stormwater management	Protect wetlands and floodplains	Review Flood Damage Prevention Ordinance	Environmental Commission; Township Engineer; Planning Division; Municipal government
		Land preservation	Planning Division; Municipal government
		Low impact development	Planning Division; Township Engineer
		Conservation grants through North American Wetlands Conservation Act	Environmental Commission; Landowners

	Protect stream buffers	Review the Stream Buffer Conservation Zone ordinance	Environmental Commission; Township Engineer; Planning Division; Municipal government
	Restore streambanks	Consider development of streambank restoration program	Environmental Commission
		Obtain Section 319(h) grant for stream project	Environmental Commission
		List stream project on the Partnership for the Delaware Estuary Regional Restoration Initiative Project Registry	Environmental Commission
		Consider amending Mitigation Plan section of Hamilton Township Stormwater Management Plan	Environmental Commission; Planning Division; Township Engineer; Municipal government
		Solicit funding from local corporate and business sponsors	Environmental Commission
Objective 2D: Improve stormwater management infrastructure	Evaluate status of current stormwater management infrastructure	Develop a stormwater management infrastructure inventory	Township Engineer; Department of Water Pollution Control; Environmental Commission

Goal 3: Protect Public and Environmental Health from Pollution			
Objective	**Recommended Action**	**Potential Step**	**Municipal Leaders**
Objective 3A: Foster sustainable practices for agriculture, gardens, and landscaping	Expand practice of Integrated Pest Management (IPM) on public lands, school grounds, and agriculture	Expand the use of IPM on lands owned by the municipality	Department of Public Works; Environmental Commission
		Encourage day care centers to use IPM and discourage the use of pesticides at all schools	Hamilton Township School District; Environmental Commission
		Collaborate with the Cooperative Extension for agricultural IPM	Environmental Commission; agricultural landowners
	Encourage environmental restoration on agricultural lands	Collaborate with the Cooperative Extension and the NRCS office to expand use of federal and state programs	Environmental Commission; agricultural landowners
	Encourage sustainable lawn care for residents	Promote IPM educational programs	Environmental Commission
		Create sustainable landscaping demonstration project	Environmental Commission; Department of Public Works
Objective 3B: Encourage awareness and remediation of Known Contaminated Sites	Increase awareness of known contaminated sites	Track status of sites	Environmental Commission
	Encourage rehabilitation and reuse of sites	Continue to apply for remediation funding and promote incentives for redevelopment	Economic Development Advisory Commission; Redevelopment Agency
Objective 3C: Encourage awareness and monitoring of local air pollution	Track local sources of air pollution	Monitor the status of operating permits and annual emissions statements of regulated facilities	Environmental Commission

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Maps:

Map 1: Greenway Trails

Map 2: Conservation Areas

Map 3: Landscape Project Critical Habitats

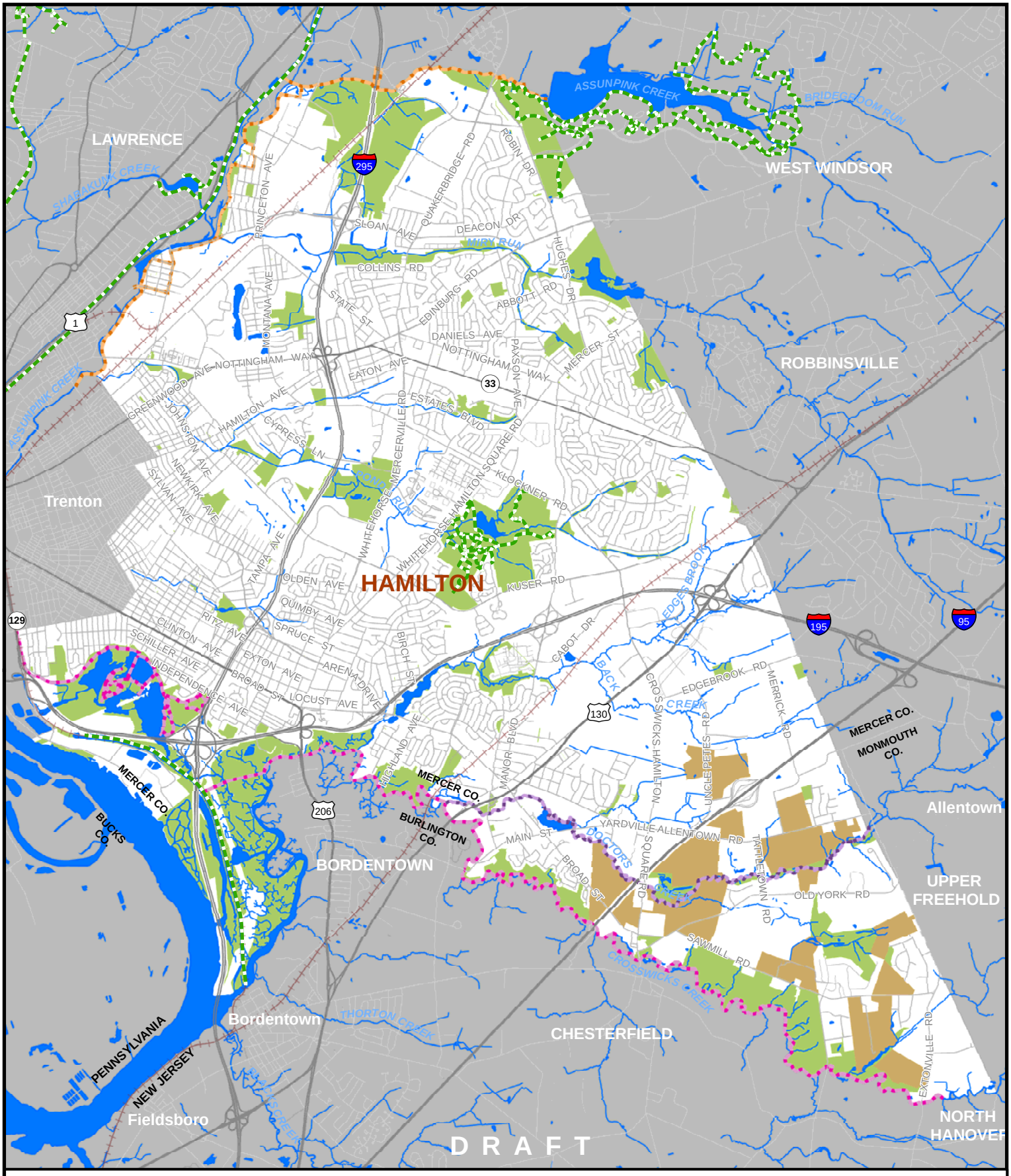
Map 4: Aquifer Recharge Potential

Map 5: Wellhead Protection Areas

Map 6: Wetlands and Floodplains

Map 7: Stream Buffers

Note: These maps are intended to serve as a resource and may be subject to more in-depth analysis and field inspection.



Source : NJDEP,NJDOT,DVRPC.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

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Miles

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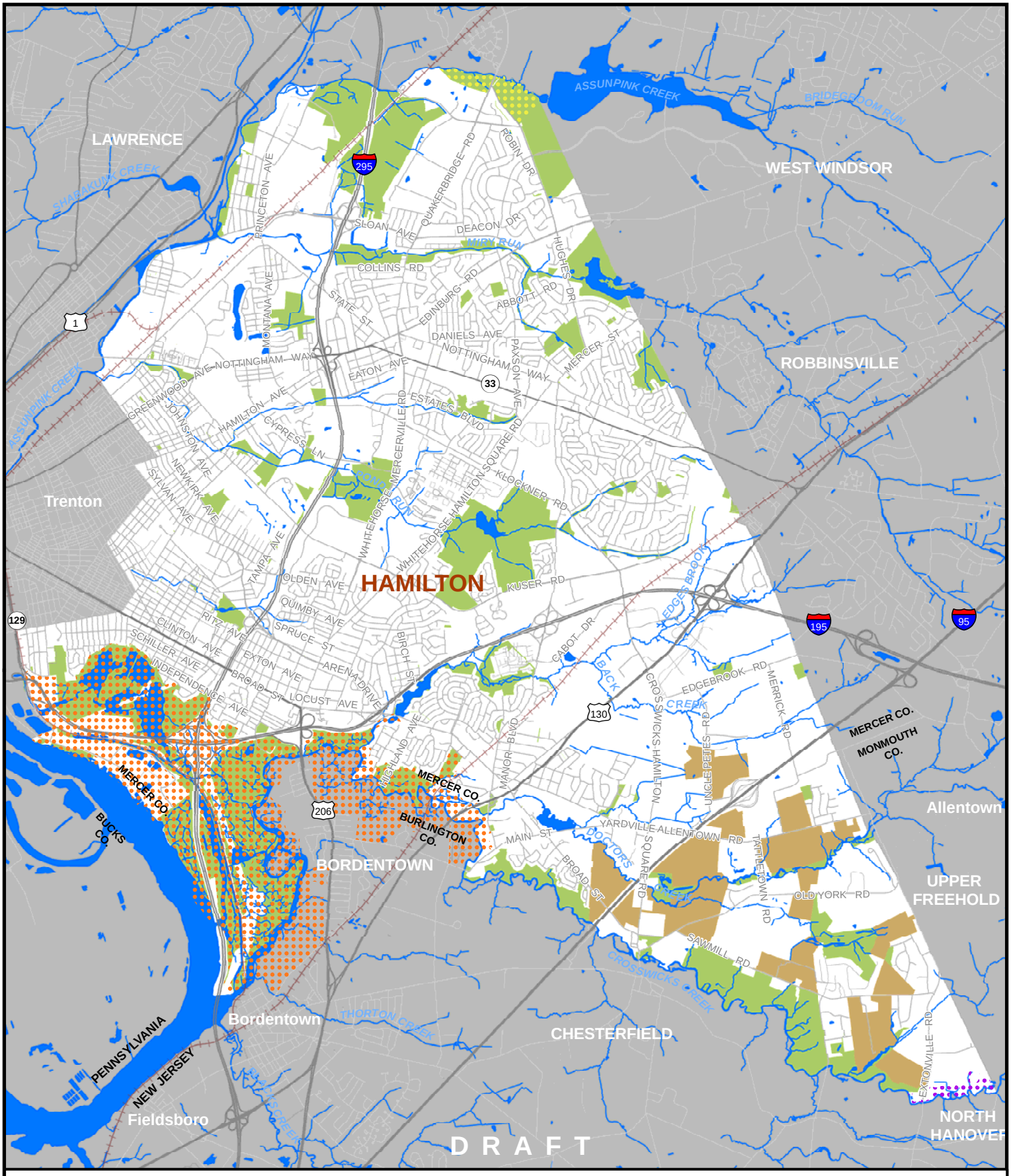
Map 1: Greenway Trails

Potential Greenway Trails

- Doctors Creek
- Crosswicks Creek
- Assunpink Creek

- Preserved Open Space
- Preserved Farmland
- Existing Trail

dvrpc



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Map 2: Conservation Areas

- Hamilton-Trenton-Bordentown Marsh
- Van Nest Refuge
- Walnford Floodplain (Hamilton only)
- Preserved Open Space
- Preserved Farmland

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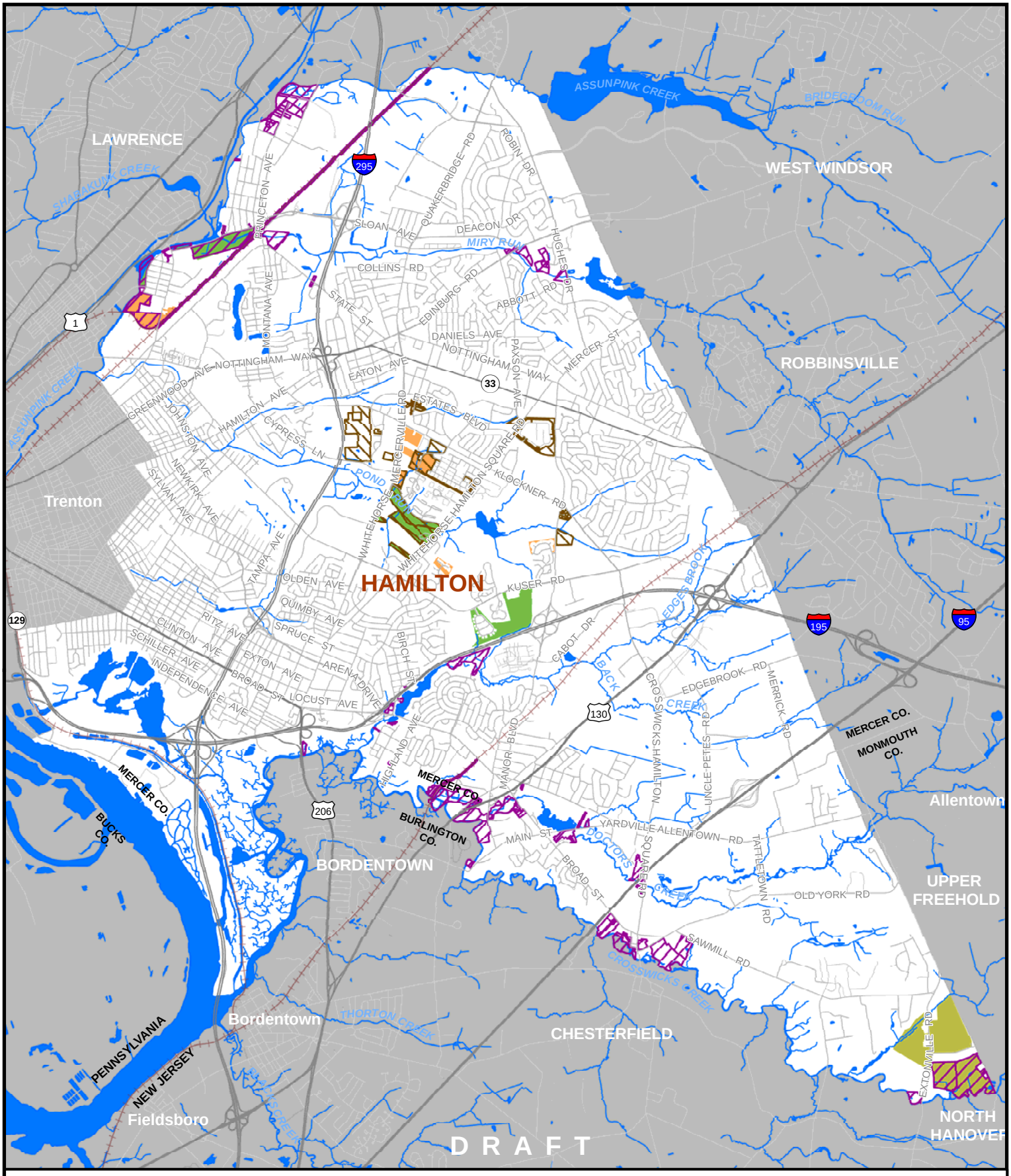

Map 3: Landscape Project Critical Habitats

Unpreserved and Undeveloped Parcels

- Wood Turtle Habitat
- Bald Eagle Foraging Area
- Critical Forested Wetlands
- Critical Upland Forest
- Critical Grasslands

Source : NJDEP,NJDOT,DVRPC.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

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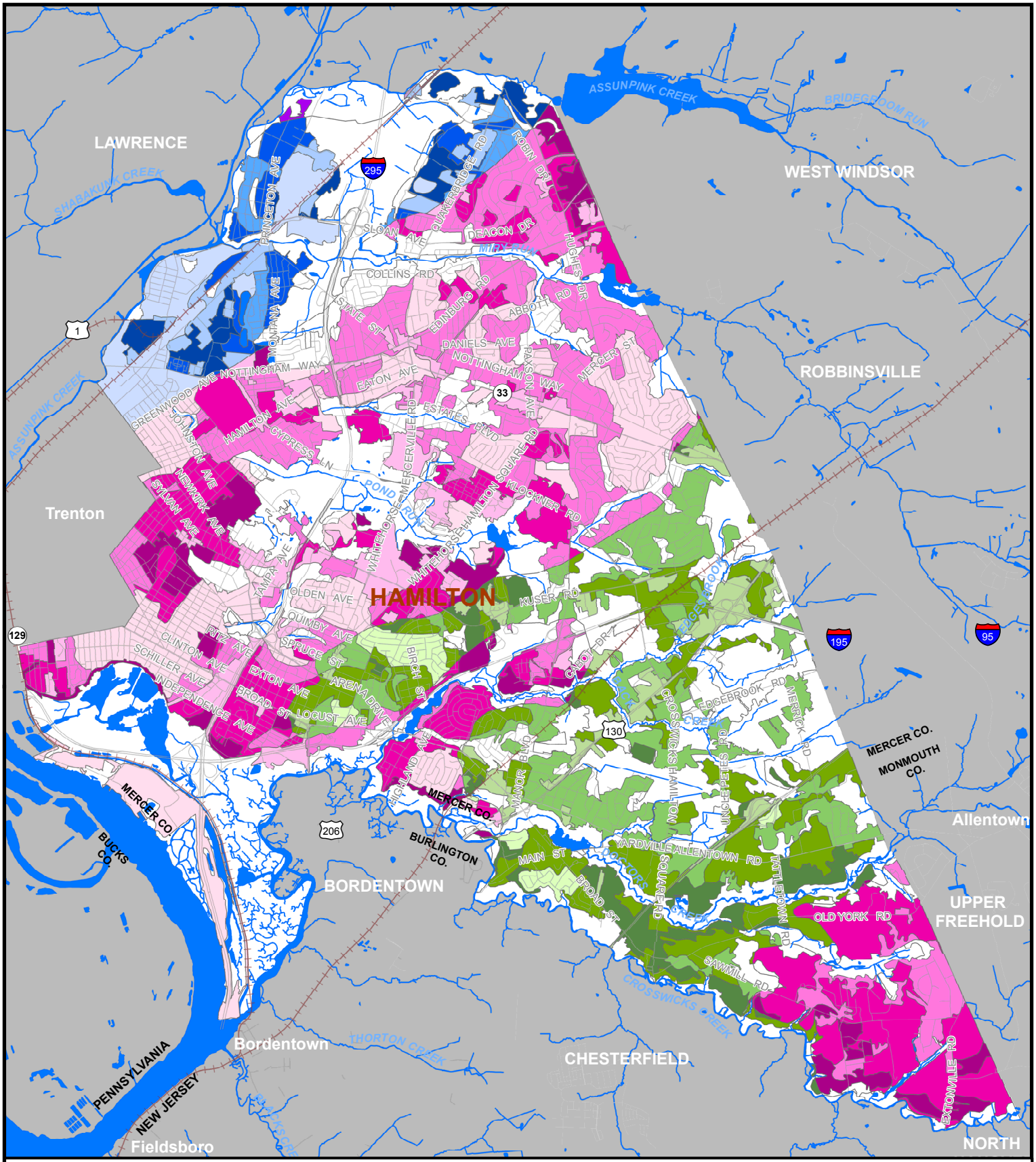

Map 4: Aquifer Recharge Potential

Source : NJDEP,NJDOT,DVRPC.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

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Median Well Yield Potential of Aquifer

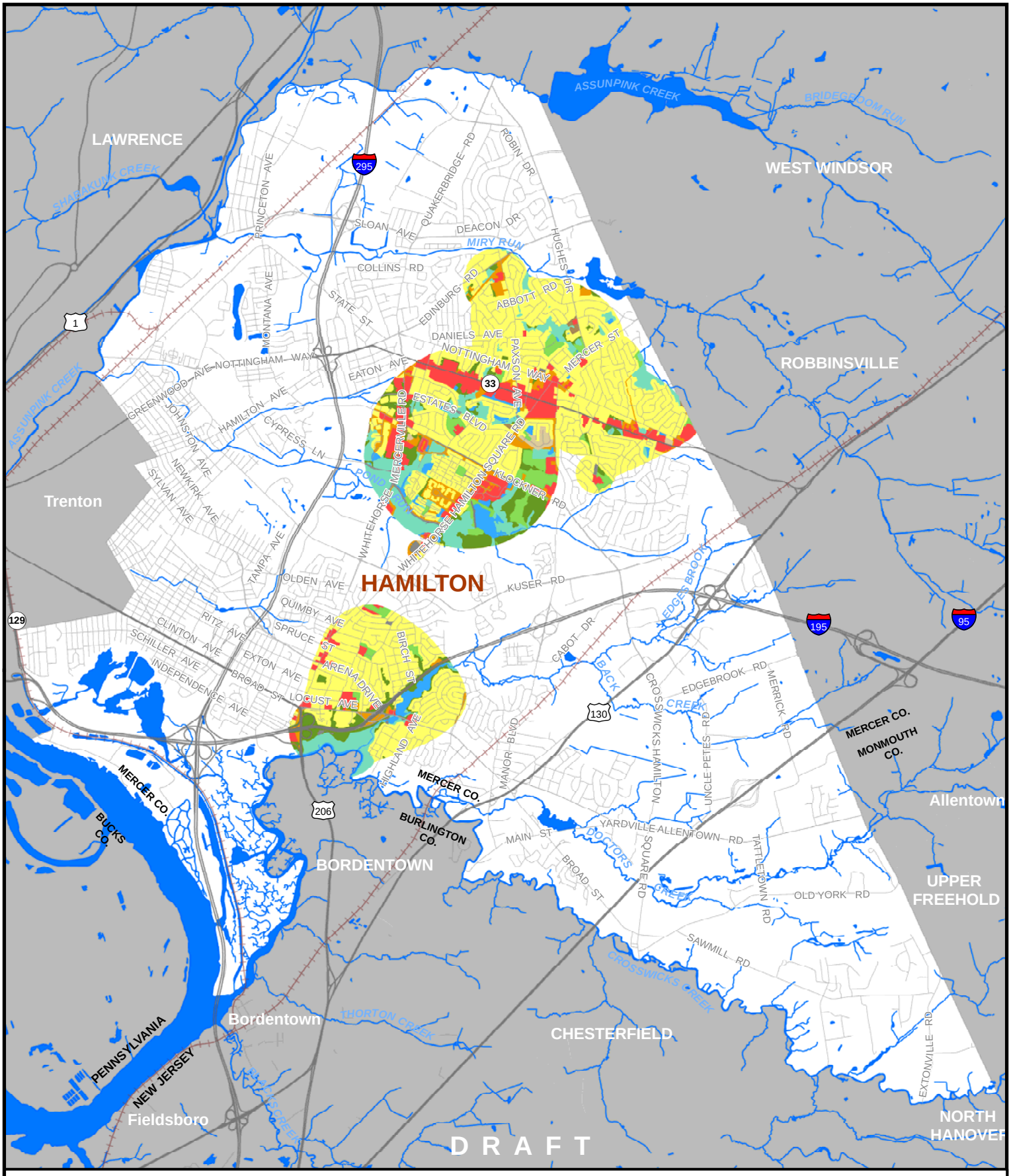
Groundwater Recharge Rank
Low—High

High → Low

>250-500	>100-250	25-100	<25

No Recharge Calculated (Wetlands, Open Water, and Hydric Soils)

dvrpc



Map 5: Wellhead Protection Areas

NJDEP Land Use / Land Cover (2007)

- Agriculture
- Barren Land
- Commercial
- Forest
- Other Developed
- Recreation
- Residential
- Transportation or Utility
- Water
- Wetlands

Source : NJDEP,NJDOT,DVRPC.
This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

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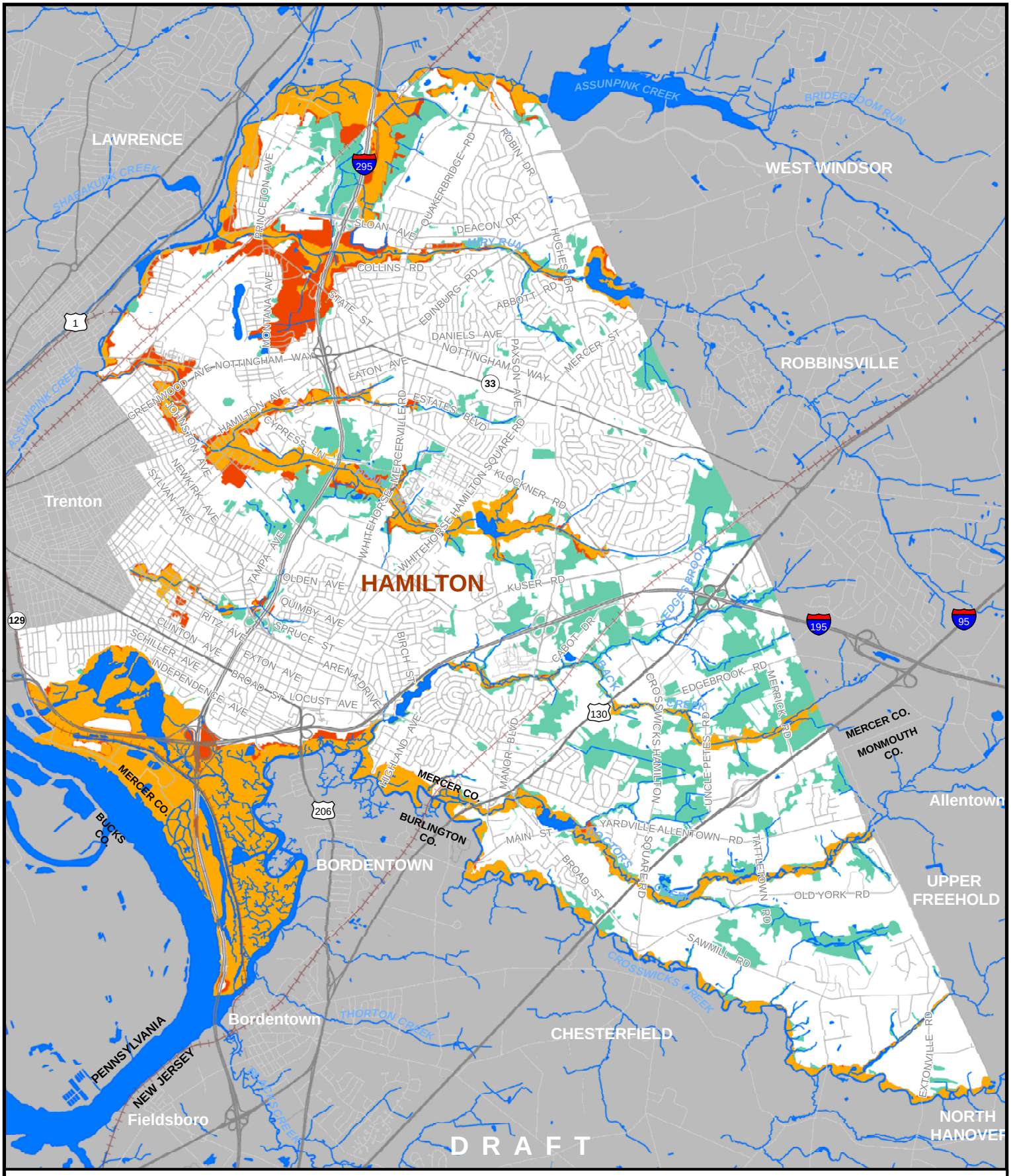

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Source : NJDEP,NJDOT,DVRPC, FEMA. This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not state-authorized.

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Map 6: Wetlands and Floodplains

100-Year Floodplain

Wetlands

500-Year Floodplain

Note: Floodplains are shown on top of wetlands

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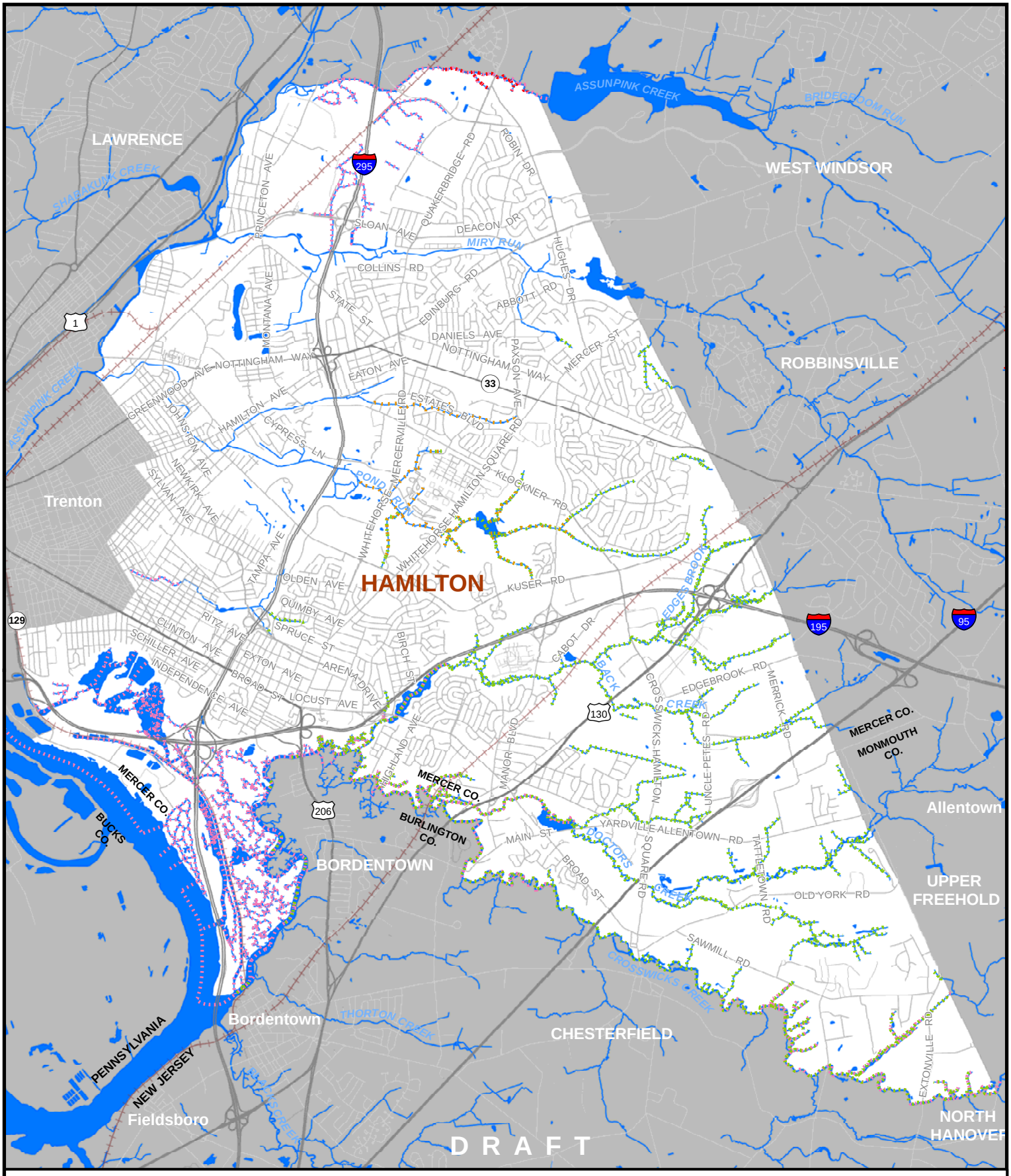

Source : NJDEP,NJDOT,DVRPC.
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Map 7: Stream Buffers

- Category 1 Streams
- Wood Turtle Habitat Streams
- Streams in Acid-Producing Formations
- Streams in Natural Heritage Priority Map Grids (Rare Plants)

dvrpc

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the database. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEP Division of Land Use Regulation, P.O. Box 439, Trenton, NJ 08625-0439.

The Landscape Project was developed by the Division of Fish & Wildlife, Endangered and Nongame Species Program in order to map critical habitat for rare animal species. Natural Heritage Database response letters will also list all species (if any) found during a search of the Landscape Project. However, this office cannot answer any inquiries about the Landscape Project. All questions should be directed to the DEP Division of Fish and Wildlife, Endangered and Nongame Species Program, P.O. Box 400, Trenton, NJ 08625-0400.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

NJ Department of Environmental Protection
Division of Parks and Forestry
Natural Lands Management

Publication Title: Hamilton Township Conservation Element

Publication Number: 11_XXX

Date Published: June, 2011

Geographic Area Covered: Hamilton Township, Mercer County, New Jersey

Key Words: Agriculture, air pollution, floodplains, greenway, groundwater, habitat, invasive species, integrated pest management, known contaminated sites, stormwater, streams, sustainability, trees, water quality, watershed, wellhead protection areas, wetlands, vernal pools

Abstract: This publication offers analysis and recommendations for protecting and enhancing the environmental resources of Hamilton Township. Issues addressed include sustainably maintaining open space and landscapes, creating a greenway system, increasing the tree canopy, protecting drinking water, reducing flooding, protecting critical habitats, and protecting public and environmental health from contamination.

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SECTION 4

Open Space and Recreation

HAMILTON TOWNSHIP MASTER PLAN

SECTION 4

Open Space and Recreation

Hamilton Township has long demonstrated a commitment to fulfilling the open space, recreation, and historic preservation needs of its residents. This commitment, evident in the Township's numerous preserved properties, municipal parks, historic sites, and extensive recreational programs and facilities, is a response to the wide range of recreational needs and interests of Hamilton Township residents. Furthermore, the Township values the role that open space and recreation facilities play in building strong communities. Through investing in its parks and recreation inventory, the Township assumes a proactive role in promoting physically and mentally healthy residents, strengthening communities, promoting social networks, and supporting youth.

The Township exceeds the open space goal set by the New Jersey 2008-2012 Statewide Comprehensive Outdoor Recreation Plan ("SCORP") by 100%. The SCORP utilizes the Balanced Land Use Concept approach to estimate the open space necessary for recreation purposes across the State, counties and municipalities. This approach suggests that municipalities should have 3% of their developable land devoted to recreation purposes. This approach uses developable land as the basis for the calculation since the demand for recreation land is generated by the presence of people, expressed as developed area. With 6% of the Township's land consisting of developed parks, State-owned open space and recreation areas and County-owned open space and recreation areas, the Township far exceeds this goal. The Township's 46 developed or active parks comprise 632 acres or 2% of Hamilton. Additionally, there are an additional 78 undeveloped Township owned properties which comprise 1,541 acres. Also there are county and state lands and the Township's 17 elementary schools which are open to the public.

Kaboom 2010 Playful City USA award sign

The Township was rewarded for its efforts at fostering a healthy environment through outdoor activities by being named a **2010 Playful City USA community**. This award was given by Kaboom, a nonprofit devoted to promoting play. Hamilton was one of 118 communities in 35 states to receive this award, which recognizes communities that have taken special action to support play and physical activity.

The benefits of ready access to park and recreational amenities on physical and mental health are well established. Residents who engage in recreational activities reduce their risk of obesity, heart disease, diabetes, cancer and osteoporosis. Additionally, increased activity is proven to boost the immune system and increase life expectancy. Recreational activity is also associated with reduced risk of depression, improved quality of life, and diminished stress levels. Through investing in parks and recreational facilities, Hamilton Township is not only improving the character of the Township, but also the health and well being of its residents.

This investment supports the recently started Let's S.H.A.P.E. Hamilton 100,000 Pound Challenge. This program, started in September 2010, challenges Township residents to lose 100,000 pounds over the course of the year. In addition to advocating health screenings, maintaining a healthy weight, abstaining from smoking and eating healthy, this program recommends that each person engage in at least 30 minutes of physical activity per day. The Township's park and recreational amenities provide opportunities for residents to achieve this goal.

"Open space", as used in this Master Plan, is distinguished from parks and recreation amenities in that it is intended to remain largely undeveloped. Like the built environment, open space adopts many different forms and provides a diversity of benefits. As is described in the Conservation Element, Hamilton Township is home to lands that are of critical environmental importance to both the region and the state of New Jersey. Through its land use decisions, the Township has the opportunity to conserve areas that significantly benefit the region's water quality, protect areas designated with high aquifer recharge, preserve critical wildlife corridors, and promote biodiversity.

Hamilton acknowledges its responsibility in preserving the ecological integrity of the area. The Township has actively conserved lands that are of environmental significance, such as the over 400 acre Hamilton-Trenton-Bordentown Marsh at the southwest part of the Township along the Delaware River. This responsibility is further evidenced by the system of preserved land along much of the Township's stream corridors and other environmentally sensitive lands. These lands have been preserved through Township purchase, conservation easements and through State and County land purchase.

Another type of open space in Hamilton Township is preserved farmland. Hamilton Township has approximately 3,340 acres of assessed farmland, the vast majority of which is located in the southern portion of the Township, east of Route 130. This area has the Township's largest concentration of agricultural activities – which creates a system of support and acceptance of farm practices – in part due to the presence of highly productive farmland. The character of those lands east of Route 130 in the RRC district is heavily influenced by farming with the resulting character being one of a rural and agrarian landscape.

Open Space and recreation are known for their positive impact on municipal revenue, property values and enhancing the quality of life in the community. People are attracted to parks and this attraction creates the potential for Hamilton's parks to generate tangible economic benefits for surrounding neighborhoods. The economic benefits of parks are realized when vacant lands are converted to park space and the value of surrounding land is enhanced as a result of the increased desirability of the immediate area. As a result, property values increase which can attract further private investment.

Additionally, open space and recreational amenities provide broader community benefits. They provide the community with central gathering points, encourage interaction between residents, and supports the development of community youth. In particular, the Town's league sports promote social bonding, instill civic pride, and build cultural diversity and harmony. Furthermore, access to recreational amenities has also been correlated to reduced crime rates, increased volunteerism, and greater community participation.

Recognizing the benefits, Hamilton Township is actively engaged in maintaining its existing open space and recreation lands and expanding its parks and recreation facilities through the following goals and objectives.

John Abbott II House in Veterans Park

This Open Space and Recreation Plan Element is an update of the 2003 Open Space and Recreation Plan Element and the 2009 Update.

Goals & Objectives

Goal 1: Preserve open space sufficient to meet the current and future needs of Township residents.

Objective 1a: Acquire land which would help meet perceived needs for future recreational opportunities.

Objective 1b: Acquire lands for environmental protection and to satisfy open space objectives such as farmland and/or rural preservation. Lands in need of environmental protection include greenways, wetlands, steep slopes, stream corridors, floodplain, floodways, aquifer recharge areas, and the like.

Objective 1c: Supplement Hamilton Township Municipal Open Space Funding with other funding sources such as State, County, and non-profit programs including but not limited to: State Green Acres Program; Mercer County Trust Fund Tax Acquisitions; and the State Farmland Preservation Program; the Infrastructure Trust Monies for stream corridor acquisition; and non-profit agencies and private donations.

Goal 2: Develop open space and recreational facilities sufficient to meet the current and future needs of Township residents.

Objective 2a: Expand park lands with active recreational facilities to meet the present and future needs of Hamilton Township. Develop linear linkages between parks, historic properties, and from residential neighborhoods which promote alternative transportation.

Objective 2b: Enhance existing community parks to reflect the needs of the local community.

Objective 2c: Promote recreational activity with appropriate and adequate access by all age and user groups throughout the Township.

Objective 2d: Foster continued cooperative use of facilities and open space with the Hamilton Township Board of Education.

Objective 2e: Foster continued and expanded cooperation with private commercial landowners and residential communities to utilize open space for shared recreational activities.

Objective 2f: Periodically review and update the recreation inventory and needs analysis to evaluate and provide for estimated needs.

Objective 2g: Explore modifications of the Township Open Space Plan to achieve symbiosis with State, County, nonprofit groups, and adjacent Community Greenway Plans, and to include passive recreational activities (i.e. public access, nature trails, picnicking).

Objective 2h: Encourage pride and a sense of ownership of park facilities by Township residents through facilities which are well maintained and serve the needs of its users.

Goal 3: Balance the provision of open space with other land uses.

Objective 3a: Reinforce the planning efforts of the Township, County, and State Master Plans.

Objective 3b: Balance open space and recreational facilities throughout the Township relative to neighborhoods to provide adequate access and opportunity to all people of the Township, and enhance the well being of residents.

Objective 3c: Promote the development of mini-parks within neighborhoods where there is consensus they will enhance surrounding property values.

Objective 3d: Identify and correct deficiencies in neighborhood-scaled parks and open space and recreation facilities.

Objective 3e: Foster cooperative efforts to preserve regionally significant areas with the State, County, and adjacent municipalities.

Inventory of Existing Open Space & Recreation Lands

Hamilton Township has one of the most extensive municipal park systems and recreational systems in the State. Recreation facilities can be put into two categories – active and passive. Active recreation facilities are defined as improved land capable of hosting formal or organized recreation activities; examples include but are not limited to playgrounds, baseball fields and soccer fields. Passive recreation facilities are defined as unimproved or minimally improved land capable of hosting outdoor activities that are compatible with conservation functions; examples include but are not limited to walking trails, bicycle trails and bird watching. Large parks typically encompass more than one type of recreation. For instance, Veteran's Park, at 426 acres, offers both hiking trails as well as baseball fields.

With 46 active parks (632 acres) and 78 passive parks (1,541 acres), few municipalities can match this extensive system which ranges from active parks to passive gardens and arboretums. This park system includes such notable parks as Veterans Park, Sayen Gardens, and the Kuser Farm Park. The facilities at these parks include traditional active sporting fields, such as soccer and baseball fields, as well as more specialized facilities such as a new skateboard park and street hockey court.

Hamilton-Trenton-Bordentown Marsh

Much of the Township's preserved open space is located in the southern portion of the Township, along the Township boundary with Bordentown Township. Many of these lands, which include the Hamilton-Trenton-Bordentown Marsh, are environmentally sensitive with wetlands, flood plains and wildlife habitat. Another concentration of open space is in the northern section of the Township, along the Assunpink stream corridor and those portions which are part of Mercer County Park. These areas play an important role since they encompass regionally significant environmental resources and serve as a buffer between those resources and surrounding development. Additionally, some of these areas provide public access, therefore fulfilling educational and recreational needs of Township residents.

The Hamilton-Trenton-Bordentown Marsh is part of the larger public area consisting of Mercer County Roebling Park and the State D&R Canal. This area not only preserves

significant environmental resources but also provides a greenway along the Township's southern boundary. Additionally, this area hosts historic sites, most notably the Abbott Farm National Historic Landmark. The Abbott Farm National Historic Landmark Interpretive Plan, prepared by Mercer County, recommends improvements that would enhance pedestrian access to the Marsh and construction of an interpretive center at Roebling Park that will provide educational programs. Connection to the D&R Canal is important since it is one of the most popular recreational facilities in the State with over 1.4 million visitors in 2009.

The majority of Hamilton's farmland, and all of its preserved farmland, is located in the southeastern portion of the Township. Of the 3,340 acres of assessed farmland in the Township, 1,223 acres, or 37%, have been preserved. This success in farmland preservation enhances the rural character of Rural Resource Conservation (RRC) zone district in the southeastern portion of the Township. Mercer County has identified a 3,185 acre Agricultural Development Area (ADA) within the southern part of the Township, which encompasses the existing preserved farmland as well as a number of preserved open space parcels. An ADA is defined as an area where the County Agricultural Development Board (CADB) has determined that farming is viable over the long term. All of the lands in the Township's ADA are also designated as a "Project Area" by the County, that portion of the ADA which is prioritized for farmland preservation activities. Of the 3,185 acres in the ADA, 647 acres are preserved farmland, 181 acres of land in the final stages of preservation, and an additional 925 acres are targeted for preservation.[1]

There are also numerous Township parks integrated into neighborhoods. These parks provide passive and active recreation within or proximate to neighborhoods and their location ensures convenient access. They also provide a place for social interaction – for neighbors to get to know each other – and thus contribute toward a sense of community. Additionally, and critical to sustainability, locating these facilities in or near concentrations of users will reduce vehicle miles traveled as visitors will have less distance to travel to reach the facilities and may not need to rely upon a car to do so.

In addition to these recreation offerings, the Township also has several areas of walking/hiking and biking trails. Residents can walk/hike and bike in Mercer County Park, Veterans Park, the Hamilton-Trenton-Bordentown Marsh, Roebling Park, as well as others. The following table provides a summary of open space and recreational areas in Hamilton Township:

Hamilton Township Open Space & Recreation Inventory Summary

Owner/Designation	Acreage (Approx.)	Percentage of Total Township Acreage
State of New Jersey	264	1.0%
Mercer County	855	3.0%
Township Parks (Developed)	632	2.0%
Township Open Space (undeveloped or easements on private property)	1,541	6.0%
Farmland Preservation	1,223	5.0%
Total	***4,514***	***17.0%***

1 Mercer County

The following tables provide a list of all preserved open space and farmland properties in the Township.

Hamilton Township Open Space & Recreation Inventory - Detail Listing

	Name	Size
1.	AMC Dedication	42.28 ac.
2.	Apollo Park	2.41 ac
3.	Vacant Land	153.25 ac
4.	Bear Swam	23.53 ac
5.	Bernard Foley Park	0.17 ac
6.	Bromley Park	5.05 ac
7.	Brooklane Field	13.05 ac
8.	Cedar Lawn Park	0.12 ac
9.	Raymond Dwier Center	1.67 ac
10.	Connecticut Ave Playground	1.06 ac
11.	Cornell Heights	4.77 ac
12.	D'Arcy Street Park	0.42 ac
13.	D'Arcy Street Park	0.39 ac
14.	Deutzville Park	8.48 ac
15.	Deutzville Playground	0.54 ac
16.	Drialo Park	2.26 ac
17.	Drialo Park	4.14 ac
18.	Farmingdale Park	0.69 ac
19.	Farmingdale Park	1.10 ac
20.	Fred Sayen Park	10.90 ac
21.	Fred Sayen Park	3.16 ac
22.	Sayen Gardens	28.10 ac
23.	Fred Sayen Park	0.14 ac
24.	Fred Sayen Park	0.07 ac
25.	Future Bike Path	2.09 ac
26.	Future Bike Path	1.22 ac
27.	George Dick Field	3.52 ac
28.	George Dye Tract	1.65 ac
29.	George Dye Tract	4.40 ac
30.	Township Land	0.82 ac
31.	Gropps Lake	28.84 ac
32.	Anchor Thread Park	3.61 ac
33.	Hamilton Green Limewood	2.03 ac
34.	Hamilton Green Limewood	3.40 ac
35.	Hamilton Green Limewood	0.34 ac
36.	Hamilton Green Limewood	0.34 ac
37.	Hamilton Green Limewood	0.34 ac
38.	Hamilton Green Limewood	0.34 ac
39.	Hamil.-Trent.-Borden. Marsh	403.81 ac
40.	Hamilton Playground	3.67 ac
41.	Hamilton Playground	2.00 ac
42.	Hamilton Playground	1.00 ac
43.	Hamilton Square Park	3.81 ac
44.	Highlands Playground	0.28 ac
45.	Highlands Tot Lot	0.18 ac
46.	Highlands dedication	73.68 ac
47.	Homedell School	1.93 ac
48.	Homestead Gardens	24.63 ac
49.	Kuser Farm Park	21.26 ac
50.	McClellan Ave Park	0.72 ac
51.	Mercerville Park	12.31 ac
52.	Municipal Bldg Athletic Fields	5.84 ac
53.	Neighborhood Center	1.19 ac
54.	Township Land	0.91 ac
55.	Periwinkle Park	0.39 ac

	Name	Size
56.	Periwinkle Park	0.20 ac
57.	Periwinkle Park	0.21 ac
58.	Township Land	0.70 ac
59.	Township Land	0.78
60.	Pintinelli Tract	5.96 ac
61.	Samuel Perro Park	6.42 ac
62.	Shady Brook Park	28.75 ac
63.	Sharps Lane Crestwood Park	9.70 ac
64.	Liberty Park	0.33 ac
65.	Sunnybrae Park	11.59 ac
66.	Sunset Manor Park	6.79 ac
67.	Township Land	0.63 ac
68.	Switlik Park	18.53 ac
69.	Van Horn Park	11.45 ac
70.	Veterans Park	313.57 ac
71.	West Acres Playground	5.03 ac
72.	Whitehead Park	1.11 ac
73.	Township Land	1.88 ac
74.	Township Land	2.89 ac
75.	Township Land	.075 ac
76.	Veterans Park	15.34 ac
77.	Township Land	15.77 ac
78.	Township Land	0.20 ac
79.	Township Land	3.01 ac
80.	Township Land	0.28 ac
81.	Township Land	23.94 ac
82.	Township Land	0.48 ac
83.	Township Land	5.32 ac
84.	Township Land	7.09 ac
85.	Township Land	9.51 ac

	Name	Size
86.	Bear Swamp	193.48 ac
87.	Township Land	12.15 ac
88.	Township Land	5.30 ac
89.	Township Land	32.86 ac
90.	Murray Ave Park	2.06 ac
91.	Township Land	16.25 ac
92.	Township Land	36.14 ac
93.	Township Land	0.40 ac
94.	Township Land	10.74 ac
95.	Township Land	34.16 ac
96.	Veterans Park (Bertothy)	13.97 ac
97.	Township Land	2.07 ac
98.	Township Land	4.88 ac
99.	Township Land	2.89 ac
100.	Hamilton Golf Center	14.41 ac
101.	Township Land	31.24 ac
102.	Tindale Farm Park	8.61 ac
103.	Isaac Pearson House	5.54 ac
104.	Township Land	4.48 ac
105.	Township Land	0.42 ac
106.	Township Land	9.34 ac
107.	Township Land	0.91 ac
108.	Township Land	2.23 ac
109.	Township Land	3.45 ac
110.	Township Land	5.34 ac
111.	Township Land	1.87 ac
112.	Township Land	0.98 ac
113.	Township Land	2.16 ac
114.	Township Land	1.84 ac
115.	Township Wetlands	8.28 ac

	Name	Size
116.	Township Land	1.53 ac
117.	Township Land	0.25 ac
118.	Township Land	3.66 ac
119.	Township Land	21.68 ac
120	Township Land	10.46 ac
121.	Township Land	2.00 ac
122.	Township Land	5.92 ac
123.	Township Land	2.47 ac
124.	Township Land	1.42 ac
125.	Township Land	5.08 ac
126.	Township Land	14.18 ac
127.	Township Land	2.32 ac
128.	Township Land	4.31 ac

	Name	Size
129.	Township Land	3.50 ac
130.	Papps Village Playground	2.39 ac
131.	Grafton House	14.11 ac
132.	Franciamore Gardens	0.07 ac
133.	Township Land	14.27 ac
134.	Township Land	4.71 ac
135.	Veterans Park (Braghelli Tract)	84.67 ac
136.	Klockner Woods	51.57 ac
137.	Cubberly Meadows donation	14.96 ac
138.	New Cedar Lane Park	0.39 ac
139.	Switlik, C47	1239.91
140.	Diocese, C32	15.78

Hamilton Township Schools

Elementary School	
S-1	Alexander
S-2	Greenwood
S-3	Kisthardt
S-4	Klockner
S-5	Kuser
S-6	Lalor
S-7	Langtree
S-8	McGalliard
S-9	Mercerville
S-10	Morgan
S-11	Our Lady of Sorrows
S-12	Robinson
S-13	St. Anthony
S-14	St. Gregory
S-15	St. Raphael
S-16	Sayen
S-17	Sunnybrae
S-18	University Heights
S-19	Wilson
S-20	Yardville
S-21	Yardville Heights
S-22	Holy Angels
Middle School	
S-23	Crockett
S-24	Grice
S-25	Reynolds
High School	
S-26	Hamilton East (Steinert)
S-27	Hamilton West
S-28	Hamilton North (Nottingham)
S-29	McCorriston

Farmland Preservation

	Elementary School	Size
1.	Doerler	122.12 ac
2.	Kim (formerly Facey)	145.25 ac
3.	Blank	____
4a.	Pyrros (formerly Skeba)	41.13 ac
4b.	Brittain (formerly Skeba)	55.58 ac
5.	Samu	100.67 ac
6.	DePaulis (formerly Runge)	121.56 ac
7.	McDade (formerly Renbord)	62.44 ac
8.	Hunt (purch. by State)	49.63.ac
9.	Lengyen (purch. by State)	128.55 ac
10.	Bielanski (purch.by State)	48.86 ac
11.	Danch (purch.by State)	21.33 ac
12.	Ellis (purch. by Township)	91.95 ac
13.	Zygmunt (purch. by County)	101.89 ac
14.	Blank	____
15.	Verde (purch.by County)	32.95 ac
16.	Rock Hill Farm	54.48 ac

Stream Corridor Easements and Parcels

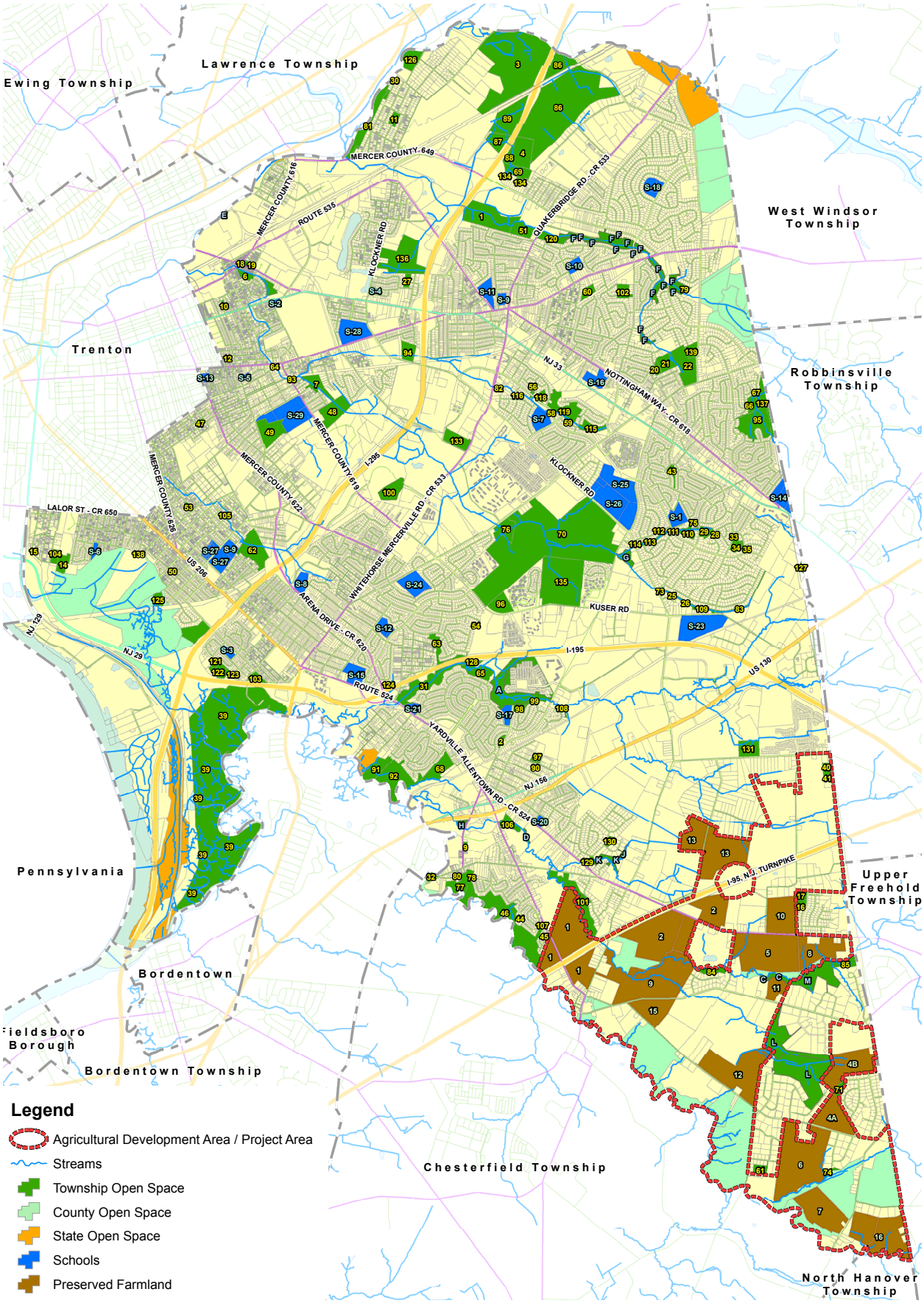
	Easement Location	Size
A.	Locust Hill Back Creek conservation easement	39.85 ac
B.	Pedestrian and bicycle easement	____
C.	Doctor's Creek Linear Park easement	5.86 ac
D.	CYO Doctor's creek Stream Corridor	1.24 ac
E.	Certified Steel Assunpink Stream Corridor easement	.88 ac
F.	Miry Brook Stream Corridor	49.83 ac
G.	Pond Run Stream Corridor	7.03 ac
H.	Doctor's Creek Stream Corridor	3.75 ac
J.	Doctor's Creek Tributary	2.36 ac
K.	Doctor's Creek Tributary Stream and Bicycle easement	7.62 ac
L.	Branch of Doctors creek	108.43 ac
M.	Doctors Creek corridor	29.37 ac
N.	Anderson Property	18.90 ac

As shown in the following table, Hamilton Township and the Hamilton Board of Education offer extensive recreation opportunities.

Recreational Facilities

Recreation Use	ExistingTownship Owned Facilities	Existing Board of Education Owned Facilities	Existing Private Facilities
Softball / baseball	6	8	2
Small soccer fields	0	0	0
Full Sized Soccer fields	4	26	8
Indoor Soccer (Full sized)	0	0	2
Football fields	1	9	0
Baseball fields	2	10	0
Swimming Pool - Indoor	0	3	5
Swimming Pool - Outdoor	0	0	4
Lacrosse	1	0	0
Skateboard Park	1	0	0
Track (For track and field events)	0	3	0
Full Basketball court-Outdoor	14	12	1
8 Sets of 2 Tennis courts	48	0	7
Quoit Courts	4	0	4
Outdoor Volleyball court	4	0	2
Picnic groves with pavilion and outdoor cooking	14	8	6
Ice skating rink (indoor)	0	0	2
Street hockey rink	2	0	0

Recreation Use	ExistingTownship Owned Facilities	Existing Board of Education Owned Facilities	Existing Private Facilities
Field Hockey	0	1	0
Half Court Basketball	4	14	0
Little League Baseball	15	0	2
Practice Football	0	2	0
Playground	30	17	1
Fishing	2	0	0
Lawn Bowling	2	0	0
Bocce	3	0	6
Shuffleboard	2	0	3
Miniature Golf	1	0	0


Ewing Township
Lawrence Township
West Windsor Township
Trenton
Robbinsville Township
Pennsylvania
Bordentown
Fieldsboro Borough
Bordentown Township
Upper Freehold Township
Chesterfield Township
North Hanover Township
MERCER COUNTY 649
MERCER COUNTY 616
ROUTE 535
KLOCKNER RD
QUAKERBRIDGE RD. - CR 533
NJ 33
NOTTINGHAM WAY - CR 619
MERCER COUNTY 619
MERCER COUNTY 622
MERCER COUNTY 626
I-295
LALOR ST - CR 650
US 206
WHITEHORSE-MERCERVILLE RD. - CR 533
ARENA DRIVE - CR 620
KUSER RD
I-195
US 130
NJ 129
NJ 29
ROUTE 524
YARDVILLE ALLENTOWN RD. - CR 524
NJ 156
I-95, N.J. TURNPIKE
Legend
Agricultural Development Area / Project Area
Streams
Township Open Space
County Open Space
State Open Space
Schools
Preserved Farmland

Targeted Open Space & Recreation Lands

It is important that each neighborhood have convenient access to open space and recreation areas. To enable this access, the Township should continue to develop additional passive and active recreation facilities and provide safe and convenient access to them via alternative modes of transportation. Creation of municipal recreation facilities should be largely based on outreach efforts to the future users – residents and community organizations – to determine the type of facilities most desired. This will help integrate the facilities into the social and physical fabric of the neighborhood and ensure that that the facilities are enjoyed by the residents. The presence of safe and convenient facilities for alternative modes of transportation, such as sidewalk, bike lanes and bike racks, will also provide linkages between the open space and recreation areas as well as neighborhoods and commercial centers. These facilities will encourage people to use alternative modes of transportation and will enhance the attractiveness and usefulness of the open space and recreation areas. Additionally, providing pedestrian and bicycle access is critical for ensuring access by those who do not drive, such as the young, elderly and disabled.

While Hamilton is well known for its array of active sports organizations there appears to be an interest among residents for less structured recreation. An online survey done during the Master Plan process revealed a preference for additional "natural" or "unstructured" recreation features – 77% of respondents said Hamilton needs more nature education, 68% of respondents indicated Hamilton needs more biking trails and 63% of respondents indicated Hamilton needs more hiking/walking trails. While this survey was not a mathematically representative sample of the Township's residents, it does provide anecdotal information which can be of value.

To assist with maintenance of open space and recreation areas, the Township should engage resident organizations, formal and informal, since they can be critical to maintaining parks. Users of the park are often a municipality's first line of defense against crime and can alert the Township to maintenance needs. Additionally, the Parks and Recreation Advisory Commission could be used to identify issues, such as maintenance needs, in the Township's parks.

In addition to neighborhood-centric recreational opportunities it is also important that "destination" type commercial development - such as that permitted along the Route 130 corridor –provide open space or recreation facilities as well. The addition of recreation in these large-scale commercial centers will create a more pleasant experience for visitors to the destination and will create a broader mix of complementary uses.

A network of greenways is being established throughout the Township, including along the Township's approximate-

ly 44 miles of stream corridors. These greenways are one component of the Township's green infrastructure network, defined as interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to the community. However, the green infrastructure network includes not just open space but also stormwater management devices and street tree networks. The Township should continue to develop the greenway system as part of its efforts to bolster its green infrastructure network This recommendation is echoed in the Conservation Element for the purpose of preserving environmentally sensitive lands and providing recreation areas, as well as the Green Buildings and Environmental Sustainability Element.

The greenway system should include pedestrian/bicycle trails and linkages as well as environmentally sensitive lands such as stream corridors. A comprehensive network such as this will effectively tie the park system together to form a continuous park environment. Additionally, greenways linked to existing preserved lands, parks and historic sites would increase access to those lands and better integrate them into the Township's park system. For example, a greenway link along the abandoned Camden-Amboy railroad, which is the oldest rail line in New Jersey and the third oldest in the nation, would provide linkages to environmentally sensitive lands along Crosswicks Creek at the border with Bordentown Township to the south and environmentally sensitive lands along the Edges Brook at the border with Robbinsville Township to the north.

The greenway system in the Township will provide linkages between preserved open space, parks, preserved farmland, environmentally sensitive lands and neighborhood destinations – such as schools, community buildings and neighborhood commercial centers. The Township should coordinate its greenway efforts with those of the surrounding area, including but not limited to the efforts of the Crosswicks Creek / Doctors Creek Watershed Association, which prepared the Crosswicks Creek / Doctors Creek Watershed Greenway Plan and the Crosswicks Creek / Doctors Creek Trail Feasibility Plan, as well as the Delaware Valley Regional Planning Association, which prepared the document Closing the Missing Link on the Assunpink Creek Greenway.

A successful greenway example of this in Hamilton Township is at the Hamilton-Trenton-Bordentown Marsh and Roebling Park. This park at the southwest corner of Township provides recreational trails throughout the site and also to the Historic Abbott House. Additionally, the trails connect to the nearby Broad Street Park neighborhood and the Independence Shopping Center is just a short distance away. This area was the subject of the Cooperative Stewardship Plan Hamilton-Trenton-Bordentown Marsh 2010 prepared

by Friends of the Marsh and D&R Greenway Land Trust. The Stewardship Plan provides strategies for enhancing the ecological integrity of the Marsh and its educational and recreational opportunities. Future improvements of this area, including but not limited to greenway development should be coordinated with the recommendations in the Stewardship Plan and with the activities of Friends of the Marsh and D&R Greenway.

Sayen Gardens

Greenways should be developed for one or more modes of recreational travel, i.e. walking/hiking, biking and/or canoeing. However, where that travel infrastructure is a long term goal or is not possible, greenways can still provide valuable environmental benefits, such as stream corridor and wildlife corridor protection. In addition to tying the park system together, a system of greenways could integrate historic sites into the park system, create wildlife corridors and offer opportunities for alternative means of transportation.

Stream corridor protection, through a comprehensive greenway network would serve multiple purposes: maintain water quality by filtering run-off entering the streams and maintaining moderate temperatures in those waters, provide wildlife habitat and provide opportunities for passive recreation. To this end, the Township has a goal of acquiring approximately 21 miles of corridors along streams. With an average width of 200 feet, these corridors would constitute approximately 500 acres of land. The Township, County and State currently control 23 miles along stream corridors in Hamilton. This equates to approximately 1,806 acres.

Acquisition and Preservation Policies

In light of its commitment to open space and recreation, the Township passed a bond ordinance in 2002 which provided $5 million for the acquisition of open space. This bond provided a stable source of funding for open space and recreation acquisition. All funds from the bond have been used for the acquisition of open space; however the term of the bond extends to 2012. Additionally, the Township established an open space fund in 2004. Since its inception, there have been nearly $2 million in deposits to the fund principally through developer contributions and State reimbursements for the purchase of open space. Currently, the fund contains approximately $1,082,500. These funds should continue to be combined with State, County, private, and non-profit programs to implement the open space and recreation needs of the community in concert with other land development goals.

All municipalities are eligible for a 25% match of funds toward the acquisition of open space and farmland through the NJ Department of Environmental Protection's Green Acres program – one of the State's most prominent sources of open space funds. Municipalities are eligible for a 50% match of funds if they have an approved Open Space and Recreation Plan and either an open space tax at a rate equivalent to at least one half of one cent per $100.00 of assessed value of real property or an equivalent alternative funding means such as a bond ordinance or annual appropriation in an equivalent amount. The Township's $5 million dollar bond ordinance was previously found to meet the criteria for an equivalent alternative funding means.

The Township should prioritize its purchase of farmland to those lots within the County's ADA for Hamilton Township in order to maximize the availability of the County's farmland preservation funds. In addition to purchase of lands, the Township will continue to work with property owners to create conservation easements along environmentally sensitive lands and farmland preservation easements on active agricultural lands. This tactic is especially valuable when development is proposed to be clustered with remaining lands to remain undeveloped.

Implementation Plan

The following action items are recommended for implementation of the Open Space and Recreation Element of the Master Plan.

1. Target acquisition of open space and recreation properties, via purchase and/or easement, to those neighborhoods lacking convenient access to passive and or active open space and to those properties that will contribute to a comprehensive greenway system throughout the Township.

2. Target acquisition of farmland properties, via purchase and/or easement, to those within the Mercer County Agricultural Development Area (ADA) for Hamilton Township.

3. Coordinate creation of new recreation facilities with the needs and desires of the intended users.

4. Engage resident organizations, formal and informal, about the ongoing maintenance needs of the Township's open space and recreation areas.

5. Install walking/hiking and biking facilities such as sidewalks, bike lanes and bike racks at the Township's park and recreation areas and greenways.

SECTION 5

Economic Development

HAMILTON TOWNSHIP MASTER PLAN

SECTION 5

Economic Development

Hamilton Marketplace on Route 130

Economic development policies can strengthen a community through the expansion of its tax and employment base, which allows the community to support a higher quality of life for its residents by providing jobs and improving public services, such as parks, schools, libraries, sewer and water services, police, fire, garbage and other governmental services. Economic development policies should balance the need for economic vitality with other master plan goals and policies, such as stability, environmental protection and preservation of the Township's character. While Hamilton's economy is diverse and built on a strong foundation, the Township and the local business community cannot afford to be complacent. Instead they must continue to ensure the Township is conducive to economic growth, innovation and prosperity and markets itself accordingly. This Element of the Master Plan will guide land use decisions to provide sustained and balanced economic development throughout Hamilton Township.

The key to Hamilton's economic prosperity lies in its strategic advantages: central location within a populous state, an educated workforce, a higher than median income residential base, a superior regional transportation network, a high quality of life offered to its residents and the availability of convenient public and private services. Centrally located between New York and Philadelphia, Hamilton is a prime location for businesses at the intersection of three major markets: Suburban Manhattan-New England, the Delaware Valley Region, and the Boston-Washington corridor. Additionally, at a local scale, the

Township benefits greatly from its proximity to the Trenton and Princeton market areas. The Township's distinction is that it offers a more diverse array of properties, goods and services at a higher price point than Trenton; however, prices are generally below the competition in the Princeton market.

The Township's high quality of life makes it attractive to businesses, providing employees an attractive place to live in proximity to work and allowing for conveniences during the workday. The Township's varied housing stock and choice of neighborhoods offers housing to employees at all incomes and lifestyles. Additionally, the Township's educational, recreational and cultural offerings add to the quality of life.

The Hamilton "Interstate Highway Complex" has afforded the Township an enviable advantage over other municipalities in attracting new business. Hamilton's road network offers superior access to the rest of the county, state and east coast markets. Major roadways in Hamilton include:

- The New Jersey Turnpike
- Interstates 295 and 195
- U.S. Highways 130 and 206
- State Highways 129 and 33

In addition to these major regional roadways in the Township, there are additional regional arteries just outside of the Township which are easily accessible. These include U.S. Highway 1, Interstate 95 and State Highway 31.

Hamilton is home to a state-of-the-art commuter rail station for NJ Transit, Hamilton Train Station. This station, situated near the I-295/Sloan Avenue Interchange is filling the growing demand for additional commuter facilities serving travelers along the northeast corridor line. Also, NJ Transit operates numerous bus lines in the Township and Mercer County operates a bus line along the Route 130 corridor.

Goals & Objectives

Goal 1: Promote a strong and sustainable economic development climate in order to provide employment, a positive tax base, convenience and quality public services and facilities for residents and businesses.

Objective 1A: Promote infill development and redevelopment opportunities.

Objective 1B: Support the provision of incubators for small or modest retail, office and industrial uses.

Objective 1C: Promote tourism and recreation related to the Township's shopping, dining and arts and culture uses.

Objective 1D: Maximize assistance and cooperation with other public and private sector economic development partners, such as but not limited to regional education institutions, the Mercer County and New Jersey Chamber of Commerce, Hamilton Partnership and the Economic Development Commission.

Objective 1E: Support a diversity of retail, office and industrial uses in the Township in order to encourage well-balanced and sustainable economic development.

Objective 1F: Improve accessibility and transportation linkages to facilitate access to places of employment in the Township.

Goal 2: Encourage the development of retail, office and industrial areas, consistent with the Master Plan.

Objective 2A: Incentivize development and redevelopment on designated large vacant or underutilized sites by permitting mixed use development.

Objective 2B: Remove and/or reduce unnecessary regulatory barriers to new retail, office and industrial development which is consistent with the Master Plan.

Objective 2C: Promote existing business retention and expansion.

Objective 2D: Maintain the Township's principal commercial corridors as viable linear retail and office districts with a diversity of businesses, adequate parking, coordinated signage and attractive streetscape.

Objective 2E: Identify and enhance existing pedestrian-oriented neighborhood scale commercial districts.

Goal 3: Ensure that the Township's infrastructure can support the existing and potential retail, office and industrial users.

Objective 3A: Roads, stormwater management and sewer and water plans should be consistent with the development capacity of the Township's residential retail, office and industrial areas.

Objective 3B: Coordinate with Mercer County and the State of New Jersey to ensure that all areas intended for retail, office and industrial growth are within the designated sewer service areas.

Objective 3C: Encourage telecommunications companies to offer broadband internet to all of Hamilton Township.

Past Economic Development Activities

The Township has a history of promoting economic development opportunities. The Township routinely works cooperatively with organizations whose mission is consistent with the Township's economic development goals, such as the Hamilton Partnership and the Chamber of Commerce. Additionally, the Hamilton Township Economic Development Advisory Commission plays a positive role in advancing economic development efforts.

The Township regularly hosts events aimed at promoting a sustainable business climate by fostering relationships between itself and business owners and between business owners. A sample of these events include *A Taste of Hamilton,* which promotes Hamilton restaurants, and the Economic Development Awards Dinner.

The Township held two events in the last year which highlight its economic development efforts. The first was the *Hamilton 202 Symposium* on August 6, 2010, and the second was the *Opportunity is Knocking in Hamilton Township* bus tour on September 15, 2010. These types of innovative outreach efforts are helpful in distinguishing Hamilton Township from the region.

Hamilton 2020 Symposium

On August 6, 2010, the *Hamilton 2020 Symposium* was hosted by the Township in conjunction with the Hamilton Partnership. This event was a nearly four hour session analyzing the characteristics of Route 33 business corridor and identifying ways to improve it.

As part of the Symposium, the corridor was split into four zones based on location and shared characteristics. During the event attendees, who consisted of property owners, business owners as well as residents, split into four breakout groups – one group for each corridor zone. Each group discussed the strengths, weaknesses, opportunities and threats relevant to each zone. After completion of the breakout group discussions, all of the groups reconvened and a representative of each group presented their findings to the attendees. The result of the event was a compilation of improvements – both physical and policy – that would enhance the business climate along Route 33 and encourage development and redevelopment in a manner that would benefit the nearby business owners and the Township as a whole. Detailed results of this event are discussed later in this Element, as well as in the Land Use Element of the Master Plan.

Opportunity is Knocking in Hamilton Township Bus Tour

On September 15, 2010 the Office of the Mayor and the Economic Development Advisory Commission held a daylong event where developers were invited to learn about the Township and tour sites available for commercial development. The purpose was to promote the benefits of operating a business in Hamilton and expand the exposure of development opportunities which are available. The well-attended event successfully showcased many of the available properties in Hamilton Township's commercial districts.

Existing Conditions

At over 40 square miles, Hamilton Township is one of the largest municipalities in the State. It is also one of the most populous, having the largest population in Mercer County and being the eighth most populated municipality in New Jersey.

Demographic Characteristics

The population of Hamilton Township grew rapidly, more than doubling, between 1940 and 1970. The Township experienced the greatest rate of growth between 1950 and 1960 when its population grew by 58% from 41,156 to 65,035 residents; this was the strongest growth rate since 1930 or before of not just Hamilton, but also Mercer County and New Jersey. Following the 1950's, the rate of population increase in Hamilton Township steadily declined. Population growth in Hamilton Township reached a low in the decade between 1990 and 2000 with an increase of less than 1,000 persons. In recent years, from 2000 through 2010, population grew in Hamilton by only 1% while it grew in Mercer County and New Jersey by 4% each.

The slow growth rate in the Township over the past 20 years reflects both local trends (the Township is approaching build-out of its residential land areas) and national trends (average household size has been shrinking during this period).

Population Growth 1930-2010

	Hamilton Township		Mercer County		New Jersey	
	Persons	% Change	Persons	% Change	Persons	% Change
1930	27,121		187,143		4,041,334	
1940	30,219	11%	197,318	5%	4,160,165	3%
1950	41,156	36%	229,781	16%	4,835,329	16%
1960	65,035	58%	266,392	16%	6,066,782	25%
1970	79,609	22%	304,116	14%	7,171,112	18%
1980	82,801	4%	307,863	1%	7,365,011	3%
1990	86,553	5%	325,824	6%	7,730,188	5%
2000	87,254	1%	350,761	8%	8,414,350	9%
2010	88,464	1%	366,513	4%	8,791,894	4%

Source: US Census, 1930-2000; 2009 US Census Annual Population Estimate

Despite minor population growth the most recent decade, Hamilton Township experienced significant swings in population throughout the age groups. The Township experienced a small decrease in the number and the percent of residents less than 14 years of age. However, from 2000 through 2009 the number and percent of residents aged 15 through 24 years increased dramatically at 25%. The age groups, 25 through 44 decreased by 17% and those 65 through 74 decreased by 6%. The largest increase in a population group, as a percent of the whole, was those aged 55 through 64; this age group increased by 35%. This change is likely due to not just an aging population but also to senior housing opportunities constructed in the Township during this time. Consistent with these changes in the age groups, the Township's median age increased from 36 to 40 from 2000 through 2009.

Age Distribution, 1990 – 2009

Age Group	1990	%	2000	%	% Change (1990-2000)	2009	% Change (2000-2009)
Under 5	5,280	6.1%	4,937	5.7%	-.40%	4,807	-2.63%
5-14	10,450	12.1%	11,613	13.3%	1.2%	11,277	-2.89%
15-24	10,640	12.3%	9,644	11.0%	-1.3%	12,055	25.00%
25-34	14,701	17.0%	11,062	12.7%	-4.3%	10,339	-6.54%
35-44	14,190	16.4%	15,300	17.5%	1.1%	12,741	-16.73%
45-54	9,582	11.1%	13,014	14.9%	3.8%	14,162	8.82%

Age Group	1990	%	2000	%	% Change (1990-2000)	2009	% Change (2000-2009)
55-64	8,761	10.1%	8,095	9.3%	-.8%	10,947	35.23%
65-74	8,178	9.4%	6,825	7.8%	-1.6%	6,409	-6.10%
75+	4,769	5.5%	6,766	7.8%	2.3%	7,030	3.90%
Total	86,553		87,254			89,767	
Median Age			36			40	

Source: 1990 and 2000 US Census

The Township's population is well educated. Within the Township, 6% of the population 25 years and older have attained a Master's degree and 19% have attained a Bachelors degree, 9% have attained an Associate's degree.

Educational Attainment for the Population 25 Years and Older

	Hamilton Twp.	Mercer County	New Jersey
No schooling completed	1.26%	0.98%	0.89%
Nursery to 4th grade	0.38%	0.68%	0.84%
5th and 6th grade	1.20%	1.73%	1.60%
7th and 8th grade	2.18%	2.34%	2.24%
9th grade	1.25%	1.67%	1.40%
10th grade	2.05%	2.30%	2.06%
11th grade	2.22%	2.31%	2.09%
12th grade, no diploma	2.06%	2.11%	2.04%
High school graduate, GED, or alternative	33.03%	24.90%	29.90%
Some college, less than 1 year	6.89%	5.27%	5.29%
Some college, 1 or more years, no degree	12.60%	10.99%	11.33%
Associate's degree	8.50%	6.13%	6.16%
Bachelor's degree	18.74%	20.59%	21.48%
Master's degree	6.05%	11.95%	8.97%
Professional school degree	0.93%	2.59%	2.42%
Doctorate degree	0.67%	3.48%	1.27%

Source: 2005-2009 American Community Survey. Table B15002

At approximately $72,000, the Township's median household income is higher than that of the County and the State.

Household Income

	Hamilton Twp.	Mercer County	New Jersey
Less than $10,000	1.60%	5.70%	5.40%
$10,000 to $14,999	3.80%	4.30%	4.00%
$15,000 to $19,999	3.40%	3.80%	4.00%
$20,000 to $24,999	4.10%	3.80%	3.90%
$25,000 to $29,999	4.50%	3.90%	4.00%
$30,000 to $34,999	4.90%	3.80%	3.90%
$35,000 to $39,999	4.00%	3.40%	3.80%
$40,000 to $44,999	3.20%	3.20%	4.00%
$45,000 to $49,999	4.60%	3.70%	3.60%
$50,000 to $59,999	7.70%	7.00%	7.40%
$60,000 to $74,999	10.40%	9.20%	9.70%
$75,000 to $99,999	16.10%	13.40%	13.70%
$100,000 to $124,999	11.20%	9.90%	10.40%
$125,000 to $149,999	9.20%	7.30%	6.90%
$150,000 to $199,999	7.70%	8.10%	7.50%
$200,000 or more	3.80%	9.60%	7.90%
Total:	**100.00%**	**100.00%**	**100.00%**
Median Household Income	**$72,052**	**$71,767**	**$68,981**

Source: 2005-2009 American Community Survey. Table B19001

Consistent with the Township's median household income, the Township's poverty level of 4.5% is significantly lower than the County's at 9.4% and the State's at 8.8%.

Poverty Levels

	Hamilton Twp.	Mercer County	New Jersey
Population Below Poverty Level	4.5%	9.4%	8.8%

Source: 2005-2009 American Community Survey. Table B17001

Additionally, the Township's crime rates are below those for the County and the State. The crime rate in Hamilton Township is 21.3 incidents per 1,000 residents whereas the crime rate for the County is 25.3 and the State is 23.9.

Crime Rates

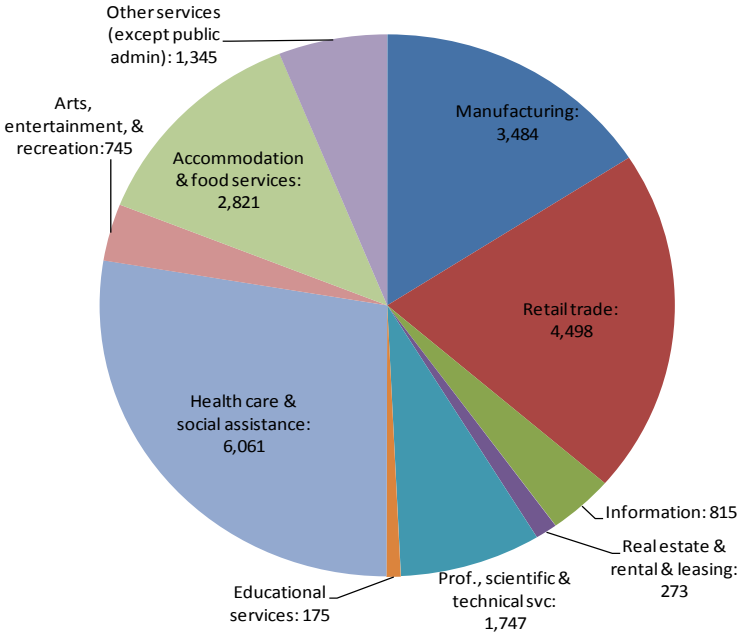
	Hamilton Twp.	Mercer County	New Jersey
Crime Rate per 1,000 Residents	21.3	25.3	23.9
Violent Crime Rate	2.3	4.4	3.1
Nonviolent Crime Rate	19.0	20.9	20.9

Source: New Jersey State Police 2009 Uniform Crime Report

Employment & Industry Characteristics

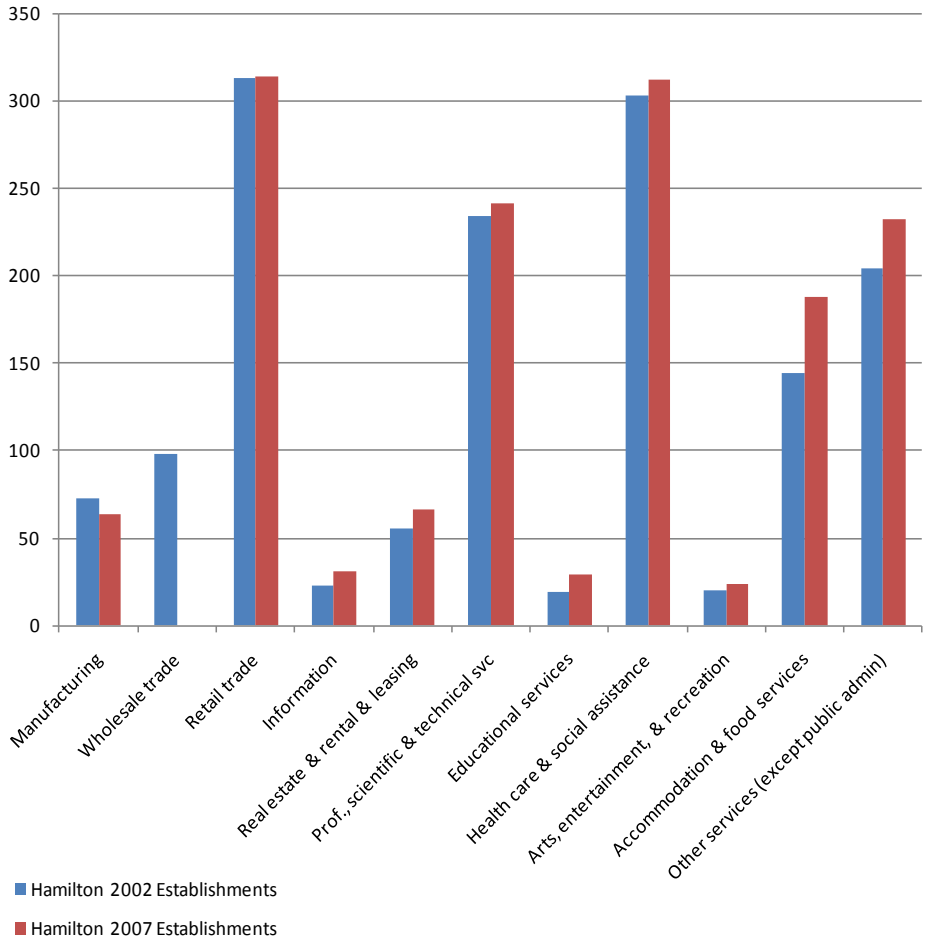
With a population of over 88,000, the Township has a significant labor force for employers to rely upon. There are a substantial number of jobs located in Hamilton Township. The 2007 New Jersey Economic Census indicates that there were 29,488 jobs in the Township, an increase of 3,529 jobs from 2002.In 2009 there were 5,035 government jobs in Hamilton, consisting of 86 federal jobs, 1,492 state jobs and 3,457 local and county government jobs.

It is also noteworthy that between 2002 and 2007 the Township gained 235 business establishments ranging from retail trade to health care. In fact, the Township gained establishments in the majority of industries tracked by the Economic Census. The most significant gains were in the accommodation and food service sector where there was an increase of 44 establishments. The only industry to lose establishments was manufacturing; however, as shown in the following tables, this industry gained 1,167 employees during this time. When reviewing these figures, it is important to note that the Nation's recession began in December 2007.



Source: 2007 US Economic Census. Note that incomplete information was provided for educational services, indicating there were between 100 and 249 employees in this industry. The chart above reflects the average of these two figures (175). Additionally, inadequate information was provided for wholesale trade and as a result, this industry is not included in the chart

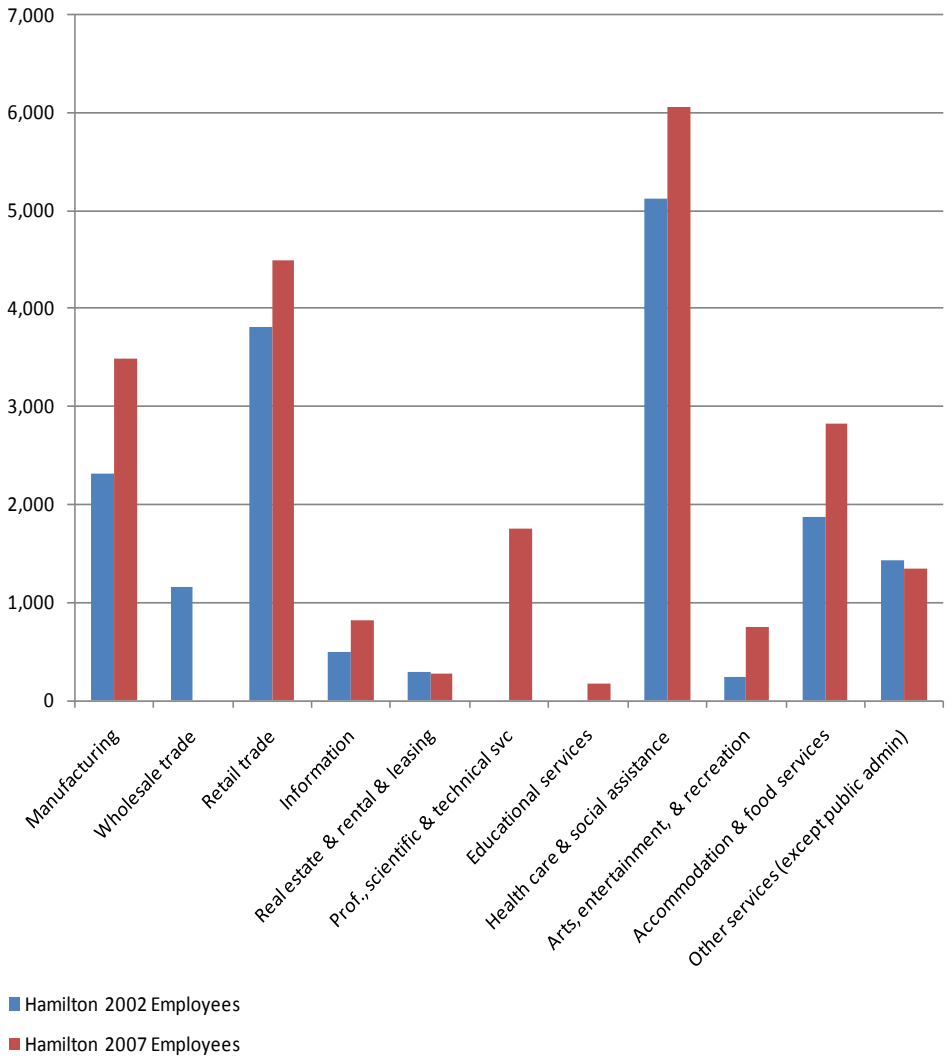
2002-2007 Number of Business Establishments in Hamilton Township



Source: 2002 and 2007 US Economic Census. Note that complete and comparable information was not provided for Wholesale Trade.

Similarly, the Township gained employees in the majority of industries. The most significant gains were in the manufacturing, with an increase of 1,167 employees, accommodation and food services with an increase of 951 employees, health care and social assistance with an increase of 946 employees and retail with an increase of 686 employees. Many of these additional jobs were likely created in and around the Route 130 corridor which experienced significant development during this period with uses such as shopping centers, offices, and a hotel. Despite these very significant gains, there were three industries that lost employees – administrative support and waste management, which lost 225 employees, other services which lost 78 employees and the real estate industry that lost a minor number of 16 employees.

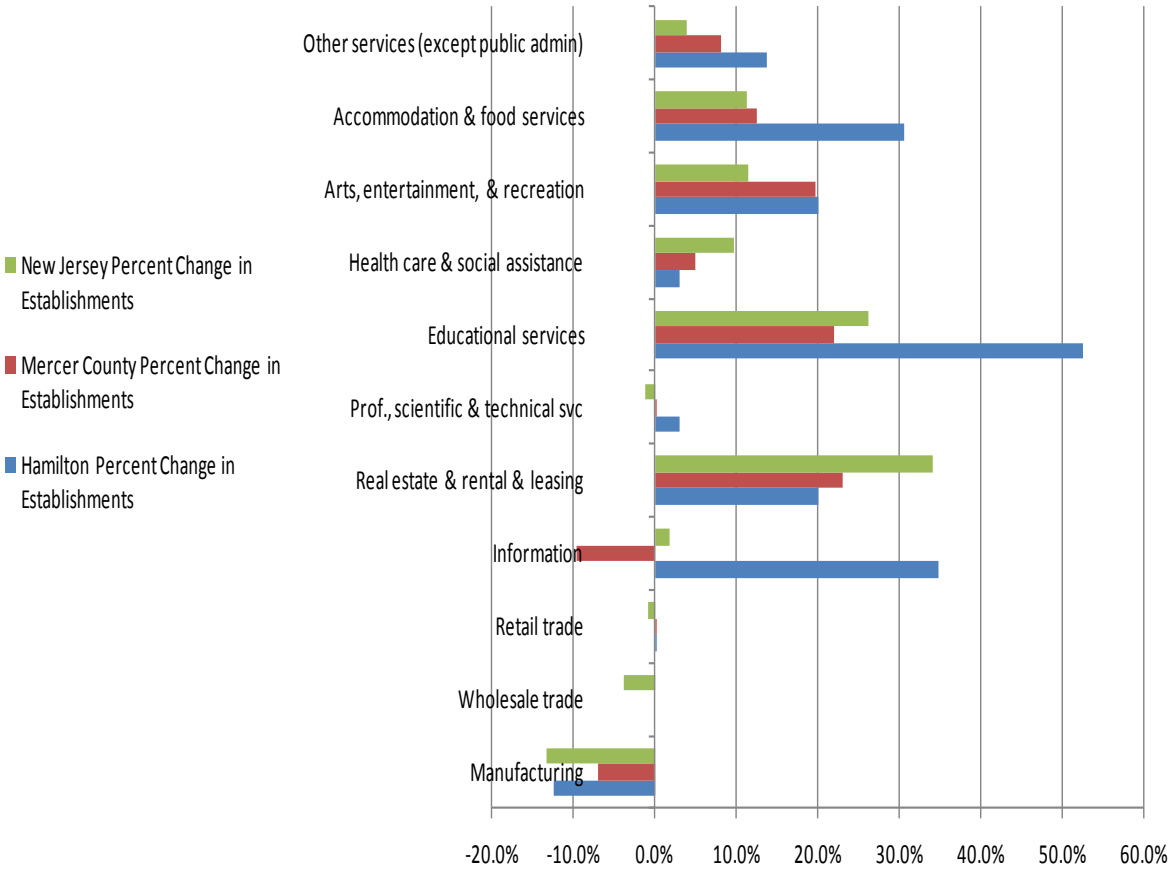
2002-2007 Number of Employees in Hamilton Township



Source: 2002 and 2007 US Economic Census. Note that complete and comparable information was not provided for wholesale trade, professional, scientific and technical services or educational services.

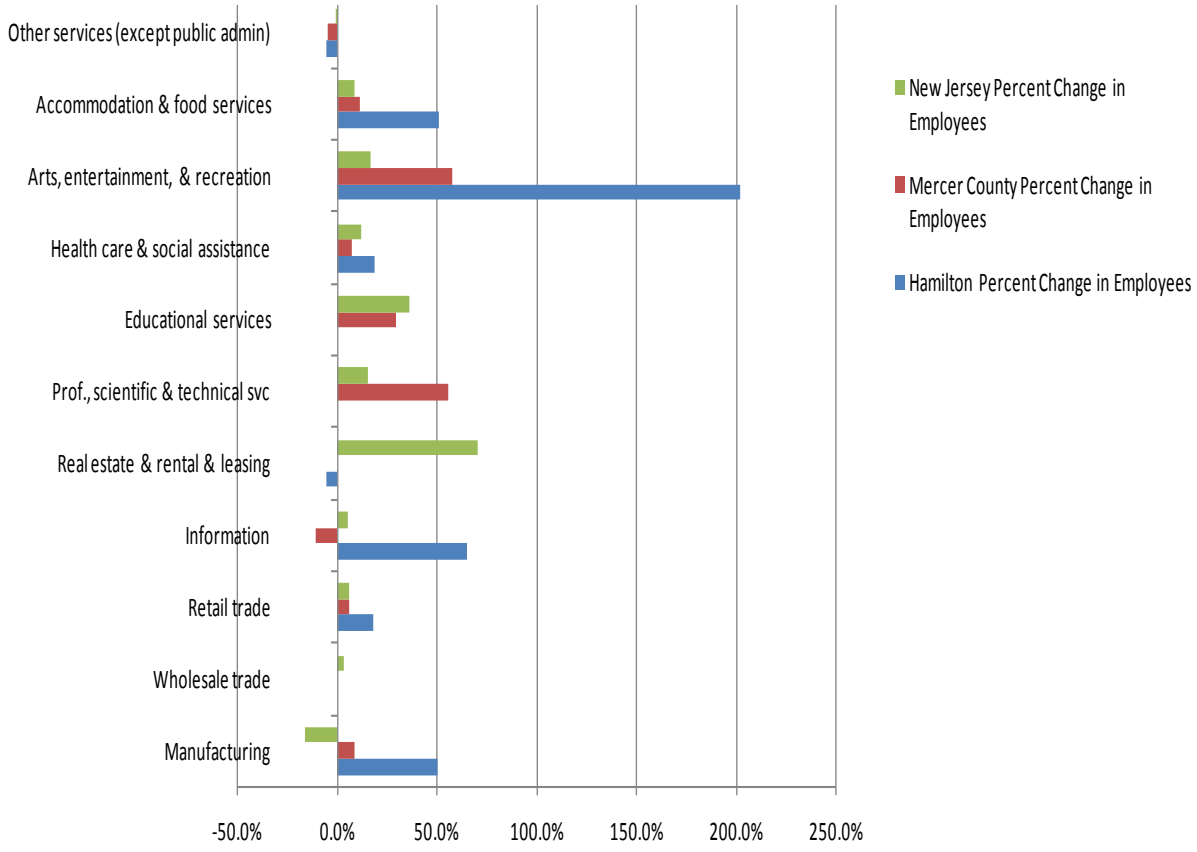
As compared to the County and the State, the industries and the employees in Hamilton Township fared well during the 2002 through 2007 period. As seen in the following tables, Hamilton had stronger growth in several industries as compared to the County and State, including the accommodation and food service, and arts, entertainment and recreation.

2002-2007 Percent Change in Establishments



Source: 2002 and 2007 US Economic Census. Note that complete and comparable information was not provided for wholesale trade, professional, scientific and technical services or educational services.

2002-2007 Percent Change in Employees



Source: 2002 and 2007 US Economic Census. Note that complete and comparable information was not provided for wholesale trade, real estate rental and leasing, professional, scientific and technical services or educational services.

Like all municipalities throughout the state, Hamilton Township has seen an increase in commercial vacancy over the last few years. These vacancies are not confined to one section of the Township, nor one industrial sector. However, it is noteworthy that the Township's vacancy rate did not increase substantially. The vacancy rate over the last several years peaked in the third quarter of 2006 at 19.7%, where as the rate in the second quarter of 2010 was 18.4%. Notwithstanding this spike, rates have slowly increased since the second quarter of 2008 when the rate was 14.5%. There are a few key properties in the Township that have a significant contribution to the real and perceived vacancy rate; these include shopping centers which are entirely or nearly entirely vacant, such as the Suburban Plaza center on Route 33, just east of the intersection with Sculptors Way and the Cost Cutters and ShopRite centers on Whitehorse Mercerville Road, just south of the intersection with Klockner Road.

Sustainable Economic Growth

The Township can achieve sustainable economic growth over the long term with supportive land use policies that encourage commercial development without unnecessary regulatory barriers, create opportunities for goods and services in demand and does so in a manner that is complementary to the existing or emerging character of the area. As discussed, the Township is well positioned for economic growth due to its excellent accessibility, educated workforce, quality of life and well established economic activity centers.

The Township has several identifiable economic activity centers ranging from retail and services intended for nearby neighborhoods to retail, office and industrial uses which serve the needs of the region. The Township's diversity of regional and local retail, office and industrial development that result from the Township's substantial population and regional accessibility as well as historic development patterns that complemented Trenton's former status as a major industrial center in the State.

Supporting redevelopment of brownfields and other underutilized sites encourages sustainable economic growth. Many industrial and commercial sites now sit idle or abandoned, draining surrounding neighborhoods of vitality and generating little in the way of tax revenues. Fearful of costly cleanup, owners often choose not to sell their properties and those properties sit idle for years. The Township can encourage the redevelopment of these sites with marketing efforts and incentivized zoning. In the past few years the Township has been taking such steps – including but not limited to the Arts and Culture Overlay district and the *Opportunity is Knocking in Hamilton Township* bus tour. This Master Plan Element offers new ideas for incentivizing redevelopment of many of these sites.

Top: *Manufacturing (MFG) district along East State Street*

Bottom: *Manufacturing (MFG) district at Duck Island*

Industrial & Manufacturing Districts

Despite troubles in the nation's industrial and manufacturing sectors, Hamilton Township continues to have a strong industrial and manufacturing base. The majority of the Township's industrial and manufacturing properties are located at the northwestern portion of the Township, along East State Street, East State Street Extension and Sculptors Way. This corridor includes a variety of uses including a FedEx distribution facility, asphalt paving company, lumber yard, construction company specializing in heavy construction projects, such as those for highways and bridges, and a manufacturer of pool liners and covers. While there are also industrial zoning districts surrounding the train station and Quakerbridge Road, the majority of these areas have actually been developed with other uses – largely office – and, in some cases pursuant to a Redevelopment Plan rather than the underlying industrial zoning. Another significant manufacturing area is Duck Island, along the Delaware River. This area hosts the PSE&G coal-fired power plant as well as other industrial uses involving petroleum products. The Township has

one additional industrial area in Yardville off of South Broad Street, which hosts a building supply use. Lastly, there are multiple industrial uses along Cabot Drive, located just north of Route 130, in the Research and Development (RD) district.

The Township should continue to support these industrial areas with zoning standards which are appropriate for such uses and which insulate surrounding non-industrial uses, particularly residential, from the negative impacts of heavy industrial development, such as noise and smell. Additionally, the Township should review the list of permitted uses and the associated definitions in the Industrial (I) and Manufacturing (MFG) districts to provide additional clarity and eliminate inconsistencies and overlap among the various uses permitted in the districts. The list of permitted and conditionally permitted uses and their respective definitions for the Industrial (I) and Manufacturing (MFG) zone districts should be reviewed with the intention of realigning the uses into coherent districts, organized according to their impact on adjacent properties and the Township's infrastructure while providing expanded opportunities for employment and economic development. Another benefit from such an examination is that it would support a more focused branding campaign – allowing the Township to market uses of a similar nature as a method of attracting similar and complementary uses.

Office Districts

The Township has a strong office sector with many buildings occupied by professional offices, medical offices and research and development offices. While there are offices scattered throughout the Township's commercial districts, there are strong concentrations along the Whitehorse Mercerville Road corridor, as well as north of the Route 130 corridor, which extends along the Kuser Road corridor. A smaller concentration of office uses is located along Quakerbridge Road.

These office concentrations along Quakerbridge Road and Whitehorse Mercerville Road are primarily within the Research Engineering and Office (REO) district while the office uses along Kuser Road and in proximity to the northwest portion of the Route 130 corridor are in the Research and Development (RD) district. The Township's regional access, large population and the presence of large employers which spur supporting businesses contributes to the success of these areas.

Whitehorse Mercerville Road Corridor

In the center of the Township is the Whitehorse Mercerville Road office corridor. As mentioned, this area has significant lands in the REO district; however, it also hosts the town center in the Government Services Center (GSC) district which includes the police station and library. Robert Wood Johnson University Hospital located along Klockner Road is not only a major employer but also draws medical and health offices to the area. In recent years Capital Health has opened outpatient facilities and other medical offices have been constructed in this Town Center corridor. These complementary uses provide enhanced medical services to the Township's residents and add to the "critical mass" of health related uses in the Township.

Capital Health Systems office buildings on Whitehorse Mercerville Road

Kuser Road / Route 130 Corridors

Over recent years Genesis Biotechnology Group, a consortium of biotechnology companies has purchased developed and undeveloped land in the Township in an effort to provide space for its companies. Several of the buildings along Kuser Road and Black Forest Road are occupied by biotechnology companies associated with the Genesis Biotechnology Group and properties along Kuser Road and Cabot Drive have been identified as locations for additional development. The build-out associated with Genesis will have a significant positive impact on the tax base and employment base in Hamilton – in fact, Genesis is already one of the largest employers in the Township. The zoning in these areas is consistent with the research, development and office uses of the biotechnology companies. Genesis has proposed to develop a "corporate village" on a 50 acre tract at Klockner and Kuser Roads. This would require mixed-use zoning, including housing (particularly for young professionals), local convenience retail and service uses, office, research and engineering.

Robert Wood Johnson University Hospital

With the hospital and the expanded presence of biotechnology companies, Hamilton Township is cementing its place in New Jersey as a hub of medical technology. This is consistent with the changes in the health care and social assistance industry identified by the 2002 and 2007 US Economic Census. In this time period, there was an increase of nine establishments, a modest figure; however, the number of employees in this industry increased by approximately 200%, by nearly 500 employees. Consistent with a projected growth rate of nearly 15% for the education and health services industry sector, it is anticipated that the next Economic Census will show further growth in this industry[1]. The Township is well positioned for this growth as the areas in proximity to Robert Wood Johnson Hospital along Klockner Road and the cluster of Genesis Biotechnology Companies in the vicinity of Kuser Road offer undeveloped land with limited environmental constraints and access to public water and sewer. The Township's marketing efforts for this section of the Township should target the medical and biotechnology fields in order to take advantage of the projected growth in the industry.

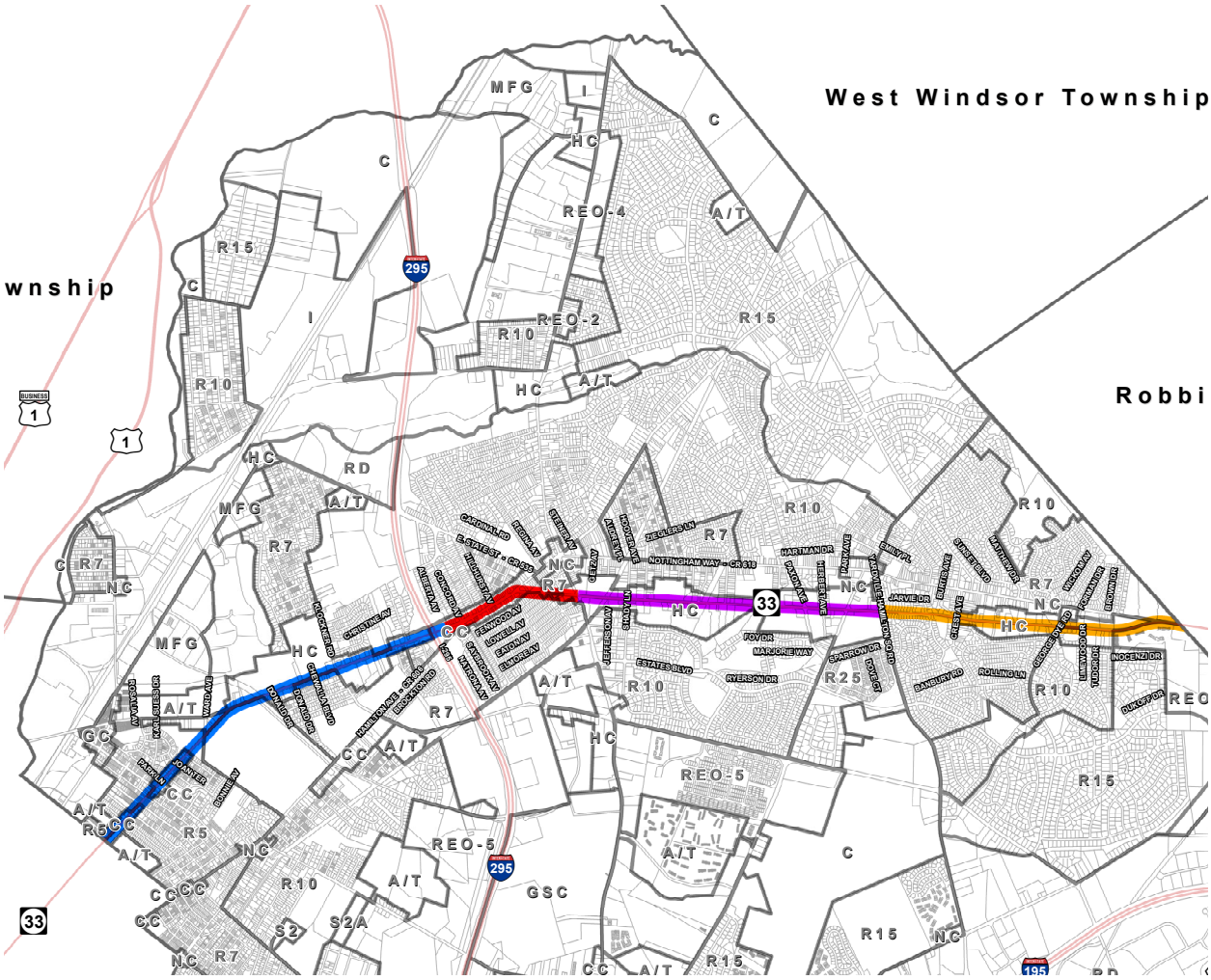
Retail Districts

The Township has the greatest number of retail concentrations. The Township has three retail zone districts, the Highway Commercial (HC), Neighborhood Commercial (NC) and the Community Commercial (CC) districts; however, the commercial corridors are almost exclusively in the Highway Commercial district.

Route 33 Corridor

Route 33 is the Township's longest retail corridor and is oriented primarily to local shoppers. The character of Route 33 varies significantly with portions having a suburban character where large stores are located behind parking areas and other areas having a traditional character where smaller multi-story buildings are located close to the street with parking at the rear. This corridor was the subject of a day-long event, *Hamilton 2020 Symposium*, held by Hamilton Township and the Hamilton Partnership, a local business advocacy organization.

1 Industry and Occupational Projections for New Jersey 2008-2018, Department of Labor and Workforce Development, Division of Labor Market and Demographic Research, September 2010.



Route 33 Corridor

Hamilton 2020 Symposium

On August 6, 2010, the *Hamilton 2020 Symposium* was hosted by the Township in conjunction with the Hamilton Partnership. This event was a nearly four hour session on the characteristics of and ways to improve the business climate, aesthetics and function of the Route 33 corridor. As part of the Symposium, the corridor were analyzed and the corridor was split into four zones for analysis based on location and shared characteristics. They are as follows:

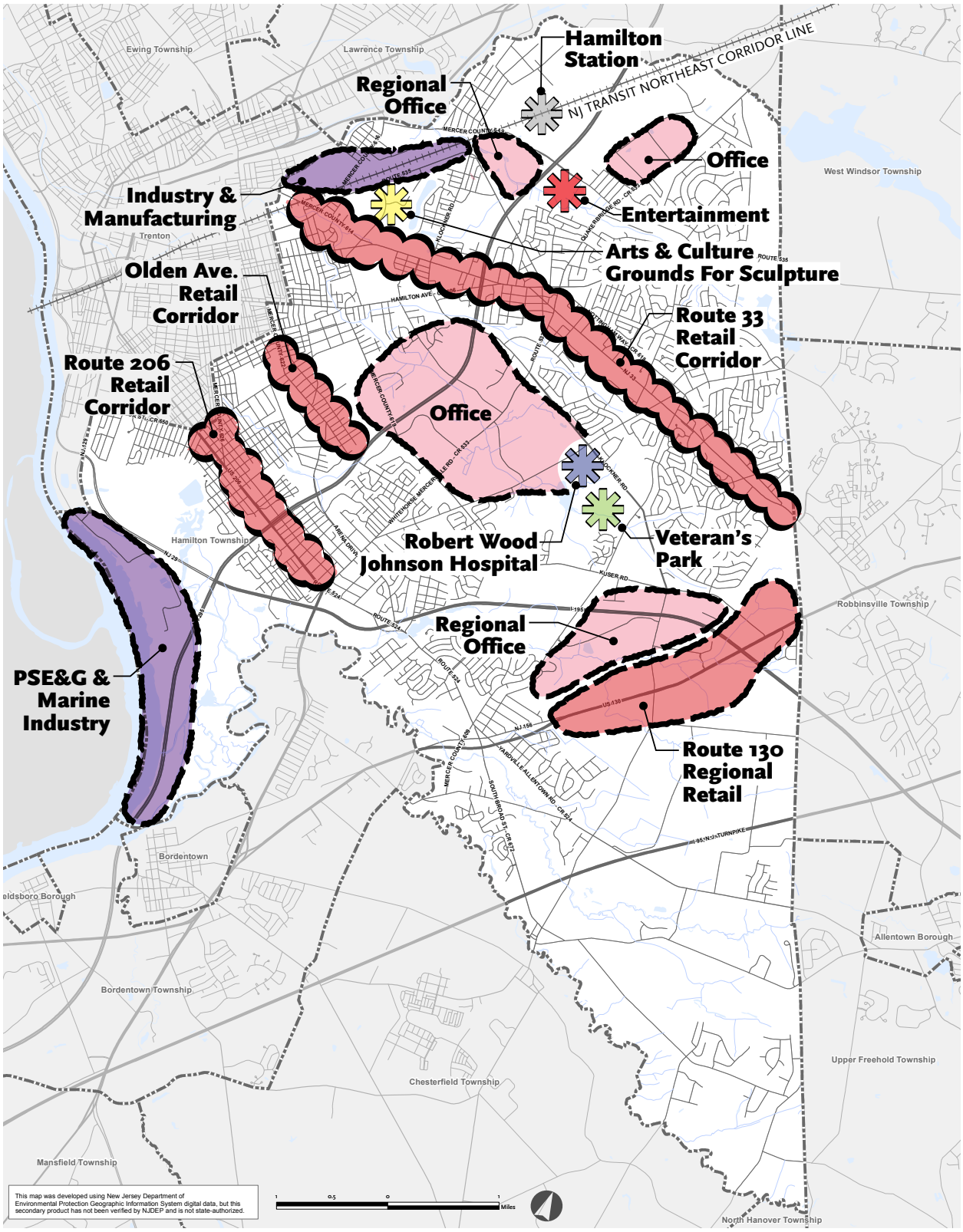
Zone A (Arts and Culture District): Zone A extends from the Township's border with Trenton to the Route 295 overpass and includes such prominent places as the Arts and Culture Overlay District, the Suburban Plaza shopping center and the Army Reserve Center.

Zone B (Westbound District): Zone B extends from the Route 295 overpass to Mercerville-Whitehorse Road and includes such prominent places as Mercerville and CVS.

Zone C (Central District): Zone C extends from Mercerville-Whitehorse Road to Yardville-Hamilton Square Road and includes such prominent places as the Hamilton Shopping Center, vacant car dealerships and Acme shopping center.

Zone D (Eastbound District): Zone D extends from Yardville-Hamilton Square Road to the border with Robbinsville Township and includes such prominent uses as the Forest Glen shopping center and Golden Crest offices.

There were several ideas shared by all groups. One common idea was that mixed use buildings, with second story residential, would be beneficial for revitalizing certain areas, increasing the customer base and providing additional income to property owners. Additionally, multiple groups spoke of the need for an improved streetscape – one that would be more accessible and friendly to pedestrians and would also be more aesthetically pleasing. A summary of the findings for each zone follows:



Principal Business Areas - Hamilton Township

Zone A – Arts & Culture District

Strengths

- Access and capacity of roads
- Proximity to train station and bus lines
- Uniqueness (Grounds For Sculpture)
- Historic (NJ Fairgrounds)
- Municipal Building
- NJ Transit bus lines
- Public space (active and passive)
- Inexpensive property

Weaknesses

- Crime/Security
- Accidents (Interstate 295 exit) and speed
- Lack of venues for performances
- Low density
- Appearance – industrial in nature
- Vacancy of Suburban Plaza

Opportunities

- Suburban Plaza redevelopment as a mixed use town center: retail, office and residential
- Expansion of Grounds For Sculpture
- Children's entertainment/museum use
- Vintage carnival ride or arcade to relate to historic Fairgrounds
- Hotel
- Incubate new businesses in inexpensive properties
- Complete Interstate 295 access to Route 33 (cloverleaf)

Threats

- Crime
- Continuing vacancies at Suburban Plaza

Zone B – Westbound District

- **Strengths**
  - Traffic – slow speeds (due to congestion) allow motorists to see stores
  - Potential for improvement
  - Business variety
  - Generational ownership
  - Sense of community (Mercerville Merchants Assoc., Mercerville Community Assoc.)
  - Walkability
  - Building scale, style and appearance (two story, at sidewalk)
- **Weakness**
  - Traffic configuration –dangerous traffic light at Route 33 and Nottingham Way
  - Speed of vehicles
  - Lack of enforcement for speeding and other traffic laws
- **Opportunities**
  - Better traffic flow
  - Streetscape improvements
  - New businesses
  - Easements – open easements to provide improved parking and access at rear of buildings
  - Second story residential (mixed use)
  - More customers, income for property owners
  - Branding the area to increase its profile in the community and marketability
- **Threats**
  - Impact of the national and regional economy
  - Crime
  - Neglect of area
  - Other thoughts and ideas
  - The zoning ordinance should be amended to permit mixed use with second story residential uses

- The Township should encourage or require rear shared parking and access
- The Township should provide information on resources – grants, technical assistance and other resources – that could help residents, community groups and the Township improve the area.
- The group felt that their neighborhood / business district included the area along Nottingham Way to Five points. This is the Mercerville area.

Zone C – Central District

Strengths

- Slow speed on Route 33
- Overall density – consumer population
- Diversity of properties / lot sizes / redevelopment (car dealerships)
- Easily recognizable landmarks
- Full service corridor
- Access to Route 130 and Interstate 295 (north and south)
- Completion of Estates Boulevard connection

Weaknesses / Threats

- Financing for larger projects, as opposed to smaller projects
- Widening of Route 33
- Other regional retail venues
- High taxes

Opportunities

- Car dealership franchise opportunities
- Planning for growth during the recession
- Bus park and ride
- Shuttle
- Destination shopping
- Transition uses
- Other Thoughts and Ideas
- Revisit zoning regulations
- An infrastructure capacity analysis should be conducted (stormwater, sewer, etc.)
- Branding of Route 33 “Biz” should define the Route 33 corridor

Zone D – Eastbound District

- **Strengths**
  - Limited vacancies
  - Less traffic congestion
  - Good business mix
  - Access to parking
  - Newer (modern) construction
  - Benefits from proximity of Robbinsville Town Center
  - Appealing to the eye
- **Weaknesses**
  - Inconsistent curbing and sidewalks
  - Lack of decorative lighting along Route 33
  - Traffic signals are a weakness to businesses
  - Undeveloped properties are unappealing
  - Number of residential uses pose a challenge to businesses
  - Not pedestrian friendly
- **Opportunities**
  - Improve pedestrian access
  - Promote activities (other than Septemberfest)
  - Reestablish business group in area
  - Turn weaknesses into strengths
  - Create more identity when entering Hamilton
- **Threats**
  - Route 33 realignment will divert traffic from businesses
  - Widening Route 33, particularly if dividers are used
  - Economy
  - Need for variances
  - Other Thoughts and Ideas
  - Valuable existing and potential uses for the area include the following:
  - “Mom and pop” shops
  - Unique shops

- "Well known" business
- Entertainment use (movie theater)
- Retail
- Make new projects appealing to the eye
- Infrastructure improvements are needed
- Landscaping improvements are needed

As a result of this event, there were three sites identified as having a particularly negative influence on the Route 33 corridor and in need of improvement – these include the Suburban Plaza site, at the intersection of Route 33 and Sculptors Way on Block 1589, Lots 165, 167 and 168, and the two vacant car dealerships at the intersection of Route 33 and Whitehorse-Hamilton Square Road on Block 1835, Lot 2 and Block 1946, Lots 4 and 5. All three sites consist of vacated or, in the case of Suburban Plaza, largely unoccupied commercial lots whose existing buildings are inconsistent with modern commercial establishments and in need of redevelopment.

The Symposium attendees proposed mixed-use with residential units or office space above ground floor retail development as appropriate for these sites. The mixed-use concept is modeled after traditional "downtowns" which have residential and office uses on upper levels over ground floor retail use. This diversity of use is a sustainable development form which creates a synergy as residents have the opportunity to walk to work or to shop and recreate. "New urbanist" developments, such as those in Princeton Borough, Washington Town Center, Plainsboro, and Haddonfield have successfully tapped into this market. These mixed-use developments are typically planned with careful attention to building detail, scale, massing and orientation so that the pedestrian and not the automobile is the primary focus of the development.

The attendees also concluded that much of the Mercerville section of Route 33, on the south side from its intersections with Nottingham Way to Saybrook Avenue, is also appropriate for mixed use. These changes will reinforce the neighborhood-scaled and pedestrian oriented character which prevails in this area. Additionally, the inclusion of residential use will support the commercial uses below and will contribute to the vitality of the commercial district. As such, the attendees suggested that the Township consider Master Plan and zone changes to accomplish these changes along the corridor.

Route 130 Corridor

The northbound side of the corridor consists largely of regional retail uses, the largest of which is the Hamilton Marketplace development. This section of the Township serves the local area; however, it also draws significant numbers of shoppers from the Mercer County and Burlington County region. This is due to the regional nature of the retail stores, several of which exceed 100,000 square feet each, and the nearby access to Interstates 295 and 195. As a result, this area serves as a regional destination. This commercial area is within the Research Development (RD) zone district; however, the retail development took advantage of the Planned Commercial Development (PCD) overlay which permits large shopping centers.

This corridor will likely continue to develop with regional

retail uses on the southbound side. In the last few years the zoning has been adjusted on two tracts in order to facilitate the development of large scale shopping centers. The PCD overlay district was added to the tract north of Kuser Road along Route 130 in order expand the zoning options from Research Development (RD) district uses to retail, the same zoning which facilitated the development of the Hamilton Marketplace development.

Additionally, the zoning on the tract on the southbound side of Route 130, adjacent to Route 156 was recently amended to better facilitate regional retail development. Critical road improvements will occur as a result of this development. The developer is obligated to construct a master plan road which will connect Route 130 with Cabot Drive. The improvement, which includes a traffic light and jughandle at Route 130, will provide southbound traffic access to development along the northbound side of Route 130, without having to travel on Route 156 through Yardville. Furthermore, it will provide a connection from this part of Route 130 to Yardville Hamilton Square Road and Klockner Road. Accordingly, traffic flow through Yardville will be alleviated, vehicle access to the northbound side of Route 130 will be improved and motorists will have an alternative to travelling on Route 130 to reach Yardville Hamilton Square Road and Klockner Road from this area of the Township. As a consequence of this improved circulation, the marketability of commercial properties along Route 130 west of Klockner Road will be enhanced.

Sloan Avenue Corridor

The northernmost retail corridor in Hamilton is along Sloan Avenue, This area, between the railroad tracks and Quakerbridge Road, enjoys excellent regional and local access. It includes the Congoleum plant and the movie theater on either side of the interchange and a shopping center east toward Quakerbridge Road. In recognition of the retail nature of the theater site and to facilitate commercial mixed use development and redevelopment, it's recommended that the theater and Congoleum sites be designated as a mixed use zone district. This change will also encourage a new use on the Congoleum site, which will be vacated in a few years, that is more complementary to the Hamilton Train Station across Sloan Avenue.

Traditional Commercial Corridors

The Township has a number of traditional commercial corridors – for example South Broad Street, Greenwood Avenue, Olden Avenue and Route 33 in Mercerville. Important shared characteristics of all of these corridors are that they are oriented toward local needs and are pedestrian friendly. They all include sidewalks and ample connections to the surrounding residential neighborhood. This traditional pedestrian friendly character is what differentiates these corridors from many of the Township's other commercial corridors and contributes to their success in attracting shoppers from the nearby area. Consistent with the neighborhoods which they serve, the majority of their buildings are older than those found along other commercial corridors, such as Route 33 and Route 130. This is also evident from the traditional building patterns with a grid street system, many older buildings located close to the street and the presence of multi-story buildings. These corridors best represent the traditional "Main Street" found in older communities throughout the state.

Greenwood Avenue commercilal corridor

These corridors cannot compete with the vehicular accessibility, including parking availability, of Route 33 and Route 130. Instead, the strength of these corridors comes from their convenience of being within walking distance of neighborhoods and their pleasing "downtown" character that comes as a result of interesting architecture, interesting streetscape and inherent walkability.

Retail Nodes

In addition to these primary corridors, the Township has a variety of small retail nodes that are intended to serve the surrounding residential neighborhoods. These nodes are most often in the Neighborhood Commercial (NC) and the Community Commercial (CC) district; however, some of the larger areas are within the Highway Commercial (HC) districts and the General Commercial (GC). For example, there are such retail nodes along Olden Avenue and Hamilton Avenue which include all three of the Township's retail zone districts.

Art & Culture District

Art and culture can positively contribute to a community in a variety of ways, including economic, aesthetic, educational and by enhancing civic pride. In order to capture these benefits the Township created an Arts and Culture Overlay district in 2009 that includes the nonresidential districts (Industrial, Highway Commercial, Community Commercial and General Commercial) generally stretching from the Hamilton Train Station in the north to the Mill One site to the south in the Bromley neighborhood at the South. Fortunately, the Township has existing art and culture assets upon which it can build this promotion. The primary asset is the Grounds For Sculpture, a renowned art facility that features an outdoor sculpture garden with associated galleria, studios, education and entertainment facilities. The Grounds For Sculpture is already successful at promoting the arts in the surrounding area, primarily with sculpture placements along East State Street and on the NJ Transit Hamilton Station property. These art placements not only increase public awareness of the facility but also beautify the area. Additionally, the Grounds For Sculpture, and the Township, enjoy excellent vehicular and mass transit access via the NJ

Transit Northeast Corridor line, Interstate 295 and State Highway Route 33.

The promotion of arts and culture can have a positive economic impact since the arts and culture is a magnet for local and regional tourism. Township businesses, such as restaurants and hotels, prosper when in proximity to arts and culture destinations. Nationally, arts and culture spending increased 24% between 2000 and 2005[2]. The promotion of arts and culture in Hamilton Township will support existing businesses and the creation of new ventures. These new art and culture organizations will bring jobs as well as investment to the Township. Increasing the presence of art and culture amenities in a community can also result in a positive increase in property values, including residential property values, as the area becomes more desirable to live, work and play[3]. Art and culture can be a major source of aesthetic improvement and civic pride. This will likely be particularly so in the Overlay District since many parts of the District consist of underutilized properties that are in need of repair. The overlay district provides additional development options, beyond what is permitted in the underlying zoning. It further promotes investment by providing density bonuses where an art or culture use is incorporated in the development or redevelopment. It is anticipated that as arts and culture organizations expand their presence in the District that the buildings on these underutilized properties will be improved or replaced. Furthermore, the presence of public art in the District will continue, at a minimum, with the placement of additional sculpture pieces. These art installations add visual interest to an area, are a tourism draw and serve as a source of civic pride.

Physical Infrastructure

One of the most important roles the Township can play in economic development is ensuring that the physical infrastructure can support its economic development goals. This physical infrastructure includes roads, water infrastructure and sewer infrastructure; it additionally, includes working with those agencies who provide services and infrastructure – such as NJ Transit, which operates the Hamilton Train Station and most bus routes, and Verizon, which offers broadband internet access – to encourage them to provide the best service possible.

The Township has been working with Mercer County on the development of the Wastewater Management Plan to ensure that all areas intended for economic growth are served by public sewer. This type of infrastructure is key to maintaining the development intensities in areas such as the Route 130 corridor which are consistent with the zoning, character of the area and economic development goals.

2 Americans for the Arts. "Arts and Economic Prosperity III. The Economic Impact of Nonprofit Arts and Culture Organizations and their Audiences Summary."

3 Sheppard, Stephen; Oehler, Kay; Benjamin, Blair. "Buying into B0hemia: the Impact of Cultural Amenities on Property Values". Center for Creative Community Development.

Road infrastructure is another key component to advancing economic development goals. Businesses must receive goods as well as consumers in a convenient and efficient manner or they risk losing their competitive advantage. The importance of road infrastructure is highlighted by Master Plan Road and traffic light which will be installed at the western portion of Route 130, near Route 156. As discussed previously, these road improvements will provide improved and more convenient access to properties on the northbound side of Route 130, as well as surrounding roads.

Business Incubation

Business incubation, critical to economic development for its support of start-up businesses, is encouraged in Hamilton Township. Often, business incubators provide professional, technological and financial advice and assistance and are specific to a particular field i.e. technology or medical related. The Township should encourage business incubators in locations where the character of the area is consistent with the particular field which the incubator serves.

Another method of business incubation is home occupations. A home occupation is often the first step in a new business – particularly in the case of professional offices, such as lawyers and accountants. When properly regulated with controls such as (but not limited to) type of business, lighting, parking and signage, home occupations can serve an important role in business incubation without detracting from the surrounding neighborhood. The Township currently permits home occupations as a conditional use in all residential zones. A few of the relevant conditions are only residents may be employed by the business and the business does not exceed 25% of the gross floor area of the home (excluding garage); additional conditions address hours of operation, deliveries and noise. The Township should consider updating this section to permit a limited number of non-resident employees; however, this expansion should be coupled with parking requirements and restrictions on the type of business permitted to be operated as a home occupation.

Implementation Plan

The following action items are recommended for implementation of the Economic Development Plan Element of the Master Plan.

1. Rezone portions of Route 33 consistent with the recommendations from the Hamilton 2020 Symposium.
2. Support the Township's economic activity centers through branding efforts that highlight their particular strengths and zoning that complements their needs and location in the Township.
3. Continue to ensure that the Township's physical infrastructure is capable of accommodating its economic development goals.
4. Encourage the redevelopment of brownfields and underutilized sites through marketing and/or rezoning as appropriate.
5. Facilitate development of business incubation in the Township and update the home occupation provisions of the zoning ordinance.
6. Review the list of permitted uses in the Industrial (I) and Manufacturing (MFG) districts to provide additional clarity and ensure the uses are permitted in appropriate locations.

SECTION 6

Circulation

HAMILTON TOWNSHIP MASTER PLAN

Circulation Element

INTRODUCTION

Circulation is the ability to travel by motor vehicle, bicycle, and foot in and through Hamilton Township. A Circulation Element examines the transportation network of streets, sidewalks and pathways that provide mobility for commuters, residents, business owners and visitors within the municipality. The township of Hamilton has a number of small commercial centers including Hamilton Square, Mercerville, Yardville, White Horse and Groveville. The focus of this document is placed mostly on the street network, however, it also includes a description of existing and proposed public transportation as well as the bicycle/pedestrian system.

HAMILTON'S REGIONAL PLACEMENT

Hamilton Township is a strategic town, located right next to Trenton, the state capital of New Jersey. Hamilton is the eighth-largest municipality in New Jersey and is located just 35 miles from Philadelphia and 65 miles from New York City. Both of these major cities can be reached from Hamilton Township via train or automobile. It is also close to most points along the New Jersey Shore. Hamilton is a transportation hub. It not only has an active modern train station, but also has access to the New Jersey Turnpike (Interstate 95), Interstate 295, Interstate 195, U.S. Route 130, U.S. Route 206, Route 33 and Route 1. Hamilton Township is the only municipality in the state of New Jersey that hosts Interstate 95 as well as all of its auxiliary routes, which include Interstates 195 and 295. The New Jersey Turnpike passes through Hamilton Township, and has service areas located in Hamilton Township between 7 and 7A northbound and 7A and 7 southbound. The train station in Hamilton Township is located on Sloan Avenue, just off of Interstate 295 at Exit 65B, on New Jersey Transit's Corridor Line. The station offers access to Penn Station in Midtown Manhattan, New York as well as to Trenton Station. Trenton station then offers a SEPTA line which serves as a regional rail line to and from Philadelphia, Pennsylvania. This neighborhood includes the Whitehorse Circle, a heavily utilized traffic circle on U.S. Route 206.

Hamilton Township is said to have an "excellent location and superior transportation network." Within the southern New Jersey region, Hamilton's convenient location along major commuting routes has created the conditions for its regional concentration of retail centers, and has helped to advance the importance of its train station. Large shopping destinations such as the Hamilton Marketplace and the Shoppes at Hamilton welcome shoppers along the growing

Route 130 Corridor, which is well on its way to becoming an entertainment destination. Commuter traffic creates congestion during the weekdays and the concentration of retail services in Hamilton Township has also prompted congested conditions during weekends, especially during busy buying seasons.

High rates of growth, especially in the northern region of Hamilton Township, near the train station, have led to increasing levels of commuter traffic on I-295 and on other minor arterial roads like Sloan Avenue and Flock Road, particularly during peak periods. With the convenience of travel that the major roads in Hamilton Township bring, the business community tends to flourish as a result. Hamilton Township is located close to most Jersey Shore destinations. The popularity of the Jersey Shore also increases highway traffic volume during summer months. Some of the roadways affected by this travel include: Interstate 195, Interstate 295, and the New Jersey Turnpike. Interstate 195 lies in an east/west orientation across the state of New Jersey, making it a direct route to shore destinations from locations west of the coast. Though Interstate 295 lies in a north/south orientation, it also experiences high traffic volumes during summer months. This volume increase is a result of I-295 being a connector from northern locations to the Atlantic City Expressway, which is a major route from Philadelphia to Atlantic City and various other shore points. The New Jersey Turnpike also primarily runs in a north/south orientation through the state of New Jersey. Though it does not terminate near a coastal location, the Turnpike experiences congestion during summer months since, like I-295, it intersects major roadways with an east/west orientation such as Route 42. The Township, as a whole, is viewed as a transportation hub since its roads connect so many popular destinations.

The local train station is another attraction that creates traffic congestion. The station is filling the growing demand for additional commuter facilities serving travelers along the northeast corridor line. Workers use the train as a means of commuting to city-based jobs, while it is also popular for weekend trips to New York City. In addition to the train, another popular form of mass transit in Hamilton Township is the local bus. There are 14 New Jersey Transit bus routes for the entire county of Mercer County. These are all exact fare lines that operate out of the Hamilton Township garage. The table below describes each of these routes.

Table 1: Hamilton Township Bus Routes

TERMINALS		MAIN STREETS OF TRAVEL
Trenton Transit Center	Plainsboro	Route 1
The College of New Jersey	Hamilton Marketplace	State Street Clinton Avenue Kuser Road
Trenton - Downtown	Pennington	Pennington Avenue
Mercer Mall	Hamilton Square	Princeton/Brunswick Pike Broad Street White Horse Avenue
Trenton Transit Center	East Trenton	Perry Street Clinton Avenue
Quaker Bridge Mall	Montgomery Township	Route 1 Witherspoon Street Route 206
Princeton	Hamilton Marketplace	Harrison Street Route 206 Greenwood Ave/ Nottingham Way Washington Boulevard
Ewing	Hamilton Independence Plaza	Parkway Avenue Broad Street Lalor Street
West Trenton	Hamilton Station	State Street
Ewing	Quakerbridge Mall	State Street Hamilton Avenue Quakerbridge Road
Trenton Circulator		Perry Street State Street Front Street
Princeton Junction Rail Station	Lawrence Township Loop	Clarksville Road
Mercer Mall	Hamilton Marketplace	Princeton/Brunswick Pike Broad Street Route 130
Ewing	Mercer County Community College	State Street Hamilton Avenue Edinburgh Road

Aside from the New Jersey Transit bus routes that run through Hamilton Township, there is also a bus route along Route 130, known as the “Route 130 Connection.” The Route 130 Connection is provided by Mercer County to

increase transportation mobility and access to employment opportunities along the Route 130 Corridor. This line begins at the Trenton Station, runs through Hamilton Township along Route 130, and ends in Monroe Township. The stops the Route 130 Connection makes in Hamilton Township include the following:

- Hamilton Station (at NJ transit bus stop)
- RWJ Health Center
- Home Depot (Rt. 130 2nd entrance)
- Hamilton Marketplace - Shoprite
- Hamilton Marketplace - Ruby Tuesday
- South Gold Park.

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 Hamilton where the major roadways are fairly evenly dispersed throughout the township, but are slightly more concentrated and congested closer to the non-residential developments such as the train station.

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 (1) 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, 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. Most, if not all signals in Hamilton Township are under the jurisdiction of the state or Mercer County. Which segments and intersections of the Township's road system have the greatest capacity constraints has not been systematically studied; however, several have been identified as needing further study and likely improvement:

- Thomas Rhodes Industrial Drive & Youngs Road
- Hughes Drive & Youngs Road
- Yardsville-Allentown Road & Route 156
- Cabot Drive & Yardsville / Hamilton Square Road
- Flock Road & Mercer Street
- Flock Road & Hughes Drive.

Prior to the study of these intersections, 19 other intersections, both signalized and stop-controlled, were studied by the Louis Berger Group Inc., in a report entitled "Final Report for: Township-Wide Traffic Study, Hamilton Township." Each was evaluated as to how successfully it currently operated. A table of these intersections, their existing Levels of Service, short-term modification suggestions, long-term modification suggestions, as well the revised Levels of Service with the implementation of the short and long-term modifications can be found in Appendix A. This table also suggests how high or low of a priority the modifications to each intersection should be regarded with.

These intersections were prioritized according to the Level of Service for each intersection compared to their respective mitigation suggestions. For example, an intersection that would receive a "high" priority ranking would be one which currently presents an unacceptable LOS (for example, a LOS F) as well as mitigations that are considered "short-term" or inexpensive to implement. Accordingly, an intersection given a "low" priority ranking would be one that has an acceptable LOS (for example, a LOS C) and whose suggested mitigations are considered "long-term" modifications. Short-term mitigations include things such as revising signal timings or installing signs, while long-term mitigations include roadway widening, the addition of lanes, or signalizing a stop-controlled intersection.

Data was also collected at the six (6) intersections previously listed so that appropriate evaluations could be performed on them as well. The additional eight (8) intersections were also then rated with Levels of Service, according to how successfully they are currently operating. These intersections and Levels of Service can be seen in the following table.

Table 2: 2011 Levels of Service

INTERSECTION	EXIST. LOS (AM/PM)
Thomas Rhodes Industrial Drive & Youngs Road	A/B
Hughes Drive & Youngs Road	A/B
Yardsville-Allentown Road & Route 156*	B/B
Cabot Drive & Yardsville / Hamilton Square Road	C/C
Flock Road & Mercer Street	A/A
Flock Road & Hughes Drive	A/C
Quakerbridge Plaza Drive & Quakerbridge Road	E/E

*Signalized intersection. LOS for intersection optimization.

After appropriate evaluation, it has been determined that each of the stop-controlled intersections listed above currently operates at an acceptable Level of Service. No immediate modifications are suggested at these locations since they are operating successfully, at a Level of Service of C or better at both of the daily peak periods. The intersection of Yardsville-Allentown Road and Route 156 is a signalized intersection that has been evaluated with a signal timing directive that has been optimized for the traffic movement volumes that were measured in 2011. The recommended timing for this intersection should be a 60 second cycle, with 27 seconds of green time at the Yardsville-Allentown Road approaches and 21 seconds of green time at the Route 156 approaches. Each approach should receive 4 seconds of yellow time and 2 seconds of all-red time. These timing suggestions will provide the intersection with a Level of Service B during each peak period. The intersection of Quakerbridge Plaza Drive and Quakerbridge Road is also a signalized intersection. It has been evaluated using the 2011 traffic movement volumes as well as the current signal timings. The Level of Service for both the AM and PM peak hours of this intersection have been calculated to be E. Some short term mitigations that are recommended to enhance the operation of this intersection are to optimize the signal timings for each approach.

Transportation Improvement Districts (TIDs) have been created in the Township of Hamilton to help to mitigate the cost of improvements at problematic areas. A TID is a geographic area organized for the purpose of improving the existing road

system. It provides a local structure which coordinates federal, state, and local resources in planning, financing, constructing, and operating transportation projects. TIDs are nominated by local governments, designated at the state level by the commissioner of transportation, and ultimately adopted by ordinance or resolution of the lead county.

There are currently two TIDs in Hamilton Township. These districts are identified on the Traffic Circulation Plan and are referred to as the "Sloan Avenue/ Quakerbridge Road TID" and the "Central Area TID." The Hamilton Township northern limit acts as the northern border of the Sloan Avenue/ Quakerbridge Road TID, while its southern boarder is formed by Hamilton Avenue and Nottingham Way. This Central Area TID contains approximately one-quarter of the Township. The Central Area TID is located south of the Sloan Avenue/ Quakerbridge Road TID. As indicated on the plan, the southern boarder of the Sloan Avenue/ Quakerbridge Road TID also acts as the northern border of the Central Area TID. The western border of the Central Area TID is I-295, and its southern boarder is located along Edgebrook Road, as well as a number of residential streets.

The TID reports for Hamilton Township are documents separate from this report and are included in the Circulation Element by reference only.

ACCIDENT DATA AND CONGESTION POINTS

Another means of identifying congestion problems is through the analysis of accident data. 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, as examples. 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 Hamilton Police Department along with the New Jersey Department of 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 complied from the 2010 calendar year reveal that the Whitehorse Circle, which consists of South Broad Street, Whitehorse Avenue, and Route 206, was the location of the largest number of motor vehicle crashes. Here, there were a total of 58 crashes in the past year. The second highest motor vehicle crash location for the 2010 calendar year was on private property, at the

Hamilton Marketplace shopping center, located on Route 130. Further analysis is recommended, particularly at locations with high crash rates, to see if safety improvements, ranging from retiming signals to improving roadway geometries, could reduce accident rates and crate safer conditions.

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 Hamilton. 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 3 lists the roads under state and county jurisdiction in Hamilton. These include the following:

Table 3: Federal, State and County Roads in Hamilton.

NATIONAL HIGHWAY SYSTEM ROADS:

New Jersey Turnpike
Interstate 295
Interstate 195
U.S. Route 130
U.S. Route 206

NEW JERSEY STATE ROADS:

Route 29
Route 33
Route 156

MERCER COUNTY ROADS:

Arena Drive (County Route 620)
East State Street Ext. (County Route 635)
Hamilton Avenue (County Route 606)
Kuser Road (County Route 619)
Mercerville - Edinburg Road (County Route 535)
Nottingham Way (County Route 614)
Quakerbridge Road (County Route 533)
South Broad/ Church Street (County Route 672)
Sweetbriar/Sloan/Flock Road (County Route 649)
Whitehorse - Mercerville Road (County Route 533)
Whitehorse - Yardville Road (County Route 524)
Yardville - Allentown Road (County Route 524)
Yardville - Groveville Road (County Route 609)

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 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.[1] This classification is highway oriented covering the interstate and regional highway network. The character of the traffic using this system determines its classification. The FHWA classification is extended in this element to cover Mercer 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 a significant portion of the streets under Hamilton's jurisdiction.

CIRCULATION PLAN CLASSIFICATION

For the purposes of the Master Plan, all roadways in the Township have been divided into one of six (6) 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). Table 4 lists the principal arterials in the Township.

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

Table 4: Principal Arterial Roads in Hamilton Township.

Name	Segment	No. of Lanes	Jurisdiction
NJ Turnpike	Entire Length	6	State
Interstate 295	Entire Length	6	State
Interstate 195	Entire Length	4-6	State
Route 29	Entire Length	5-7	State

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 may be expanded to that size. Examples include US Route 130, US Route 206, and Route 33. Table 5 lists the major arterials in the Township.

Table 5: Major Arterial Roads in Hamilton Township.

Name	Segment	No. of Lanes	Jurisdiction
U.S. Route 130	Entire Length	4-6	State
U.S. Route 206	Entire Length	4	State
Route 33	Entire Length	4	State

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 Mercer County. Table 6 lists the streets designated as minor arterials in Hamilton Township.

Table 6: Minor Arterial Roads in Hamilton Township.

Name	Segment	No. of Lanes	Jurisdiction
Hughes Dr.	Entire Length	2	Municipal
Youngs Rd.	Entire Length	2	Municipal
Sweet Briar Ave./ Slone Ave./ Flock Rd.	Mercerville-Edinburg Rd. to Whitehead Rd.	2-4	County
Whitehead Rd.	Entire Length	2	County
East State Street Extension	Entire Length	2	Municipal
Nottingham Way	Greenwood Ave. to Rt. 33	4	County
Mercerville-Edinburg Rd.	Entire Length	2-4	County
Klockner Rd.	Nottingham Way to I-195	2-4	Municipal
Whitehorse- Hamilton Square Rd.	Rt. 33 to Kuser Rd.	2	Municipal
Yardville-Hamilton Square Rd.	Rt. 33 to Rt. 130	1-3	Municipal
Ward Ave./ Ward Ave. Extension/ Kuser Rd.	Entire Length	2	County/Municipal
Arena Dr.	Entire Length	2-4	County
South Broad St.	Chambers St. to Rt. 130	2-4	County/Municipal
Hamilton Ave	Entire Length	2	County
Crosswicks-Hamilton Square Rd.	I-195 to Rt. 130	4	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 penetrate 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 7 and 8 below, list the major and minor collector roads in the Township.

Table 7: Major Collector Roads in Hamilton Township.

Name	Segment	No. of Lanes	Jurisdiction
Flock Rd.	Mercer St. to end	2	County
Paxson Ave.	Entire Length	2	Municipal
Mercer St.	Entire Length	2	Municipal
Nottingham Way	Rt. 33 to Mercer St.	2-4	County
Klockner Ave.	E. State ST. Ext. to Nottingham Way	2	Municipal
Cypress Ln.	Entire Length	2	Municipal
Estates Blvd.	Entire Length	2	Municipal
South Olden Ave.	Entire Length	4	County
Chambers St.	Entire Length	2	County
Whitehorse-Hamilton Square Rd.	Kuser Rd. to Rt. 206	2	Municipal
Lalor St.	Entire Length	2	Municipal
Back Rd. to Allentown	Entire Length	2	Municipal
Crosswicks-Hamilton Square Rd.	Rt. 130 to Yardville-Allentown Rd.	2	Municipal
Yardville-Allentown Rd.	Entire Length	2	County
Route 156	Entire Length	2	State

Table 8: Minor Collector Roads in Hamilton Township.

Name	Segment	No. of Lanes	Jurisdiction
Leonard Ave.	Entire Length	2	Municipal
Cedar Lane	Entire Length	2	Municipal
Church St.	Entire Length	2	Municipal
South Broad St.	Entire Length	2	County
Crosswick/ Hamilton Square Rd.	Yardville Allentown Rd to County Limit	2	Municipal
Sawmill Rd.	Entire Length	2	Municipal
Merrick Rd.	Entire Length	2	Municipal
Uncle Pete Rd.	Entire Length	2	Municipal
Old York Rd.	Entire Length	2	Municipal
Extonville Rd.	Entire Length	2	Municipal
Iron Bridge Rd.	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 Hamilton, 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 following paragraphs discuss how the roadway system in Hamilton is categorized based on the federal classification system.

FHWA-PRINCIPAL ARTERIALS

Principal Arterials are intended to handle large volumes of regional and through traffic. Some Principal Arterials in Hamilton include Interstate 295 and the New Jersey Turnpike. Highways of this type are intended for large volumes of traffic in urban areas, such as Hamilton. The fundamental characteristic of the principal arterial’s function is to carry through traffic. The highways noted above are designated as Urban Principal Arterials. Daily traffic counts indicate the high usage of these roads. Principal Arterials are part of the National Highway System. The National Highway System 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. 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.

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. 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).

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 cart-ways, 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.

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.

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 1500 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. The HAMC is presently undergoing a comprehensive study and review by NJDOT. 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. Limited access highways in Hamilton, such as I-295, I-195 and the New Jersey Turnpike, are Access Level 1. Access is only achieved through grade-separated interchanges. Route 130 and Route 206 are examples of highways where abutting land has direct access. Both Rts. 130 and 206 are designated Access Level 4, which allows driveway interconnections to the state highway.

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. For example, a roadway classified as a 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).

Finally, it should be noted that the DOT is considering revaluating 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."

MERCER COUNTY HIGHWAY POLICY

The Mercer 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 Hamilton.

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, shopping areas, and cities such as Philadelphia, New York, and Jersey Shore points. Their rationale for the width of highway roads is to permit four or six lanes of travel with appropriate left turn lanes at intersections either with or without medians. The County seeks municipal support before proceeding with a project. Nonetheless, road construction impacts within the proposed right-of-way would be significant.

Consistent with Residential Site Improvement Standards for the State of New Jersey (RSIS), the right-of-way width should typically provide a minimum ten-foot setback from the roadway to allow for sidewalks, utilities, and planting strips as appropriate. For roadways higher level classifications, a larger right-of-way is reserved for additional lanes that might be required for turning movements at key intersections throughout the township. An additional feature proposed for the

width guidelines, consistent with American Association of State Highway and Transportation Officials (AASHTO) policies is the ability to provide at least a 24 foot cartway width and a minimum shoulder width of three (3) feet to allow for bicycle compatibility, in lieu of a full-width two-lane roadway. This option is suggested for the two lowest levels of roadway classification within the township and would thus only apply to the lower volume roadway segments.

SIDEWALK POLICY

As portions of the Township have grown into more intensely developed areas, so too has the need to provide sidewalk connections. Sidewalk connections are important not only for the safety of pedestrians, but also to encourage more residents of the Township to walk or bicycle to their destinations rather than drive.

Parson Brinkerhoff Inc. has developed an appendix to the Circulation Element, entitled "Hamilton Township Bicycle and Pedestrian Circulation Study." This document was established as a component of the overall Circulation Element and serves to support the planning and implementation of bicycle and pedestrian improvements throughout the Township. In this document, specific policies are recommended to improve existing sidewalk facilities throughout the Township. These policies include improvements at three (3) intersections and six (6) corridors. They include the following:

INTERSECTIONS

- Quakerbridge Road at Sloan Avenue/ Flock Road
- Whitehorse-Mercerville Road at New Jersey Route 33
- Hamilton Avenue at South Olden Avenue

CORRIDORS

- New Jersey Route 33:
  from Donald Drive to Hamilton-Trenton Border
- Hamilton Avenue:
  from I-295 to Hamilton-Trenton Border
- Nottingham Way
  from Quakerbridge Road to New Jersey Route 33
- South Broad Street
  from I-195 to New Jersey Route 130
- South Broad Street
  from I-195 to Hamilton-Trenton Border

- New Jersey Route 33
  from Whitehorse-Hamilton Square Road to Yardville- Hamilton Square Road.

Policies for improving the existing sidewalk at these locations include filling in any gaps in existing sidewalk, adding curb ramps where they do not currently exist, upgrading existing sidewalks and curb ramps to comply with Americans with Disabilities Act (ADA) standards, and providing appropriate lighting in these areas.

STREET CONNECTIVITY AND COMPLETE STREETS

Street connectivity is defined as a system of streets with multiple routes and connections serving the same origins and destinations. A connected street system supports a vibrant economy, reduces traffic congestion and provides safe and convenient access to people, recreation, good and services. It is important to note that connectivity applies at all levels – connections between local streets, connections between neighborhoods and connections between regions. There are many advantages to a connected street system:

- Decreased vehicle miles traveled. A lack of local street connections forces travelers to take longer routes, often using the regional transportation systems, for local trips. Furthermore, a lack of local street connections causes inefficient delivery of goods and services and inefficient school bus routes. The decreased vehicle miles traveled will have a corresponding improvement in air quality as there will be fewer vehicles to release pollutants.
- Enhanced safety. Emergency vehicles will have multiple and potentially more direct routes to their destinations, therefore shortening emergency vehicle response time.
- Decreased traffic congestion. Traffic will not be concentrated on only a few streets or intersections; instead, travelers will have multiple routes to and from their destination and will rely less on the regional transportation system for local trips.
- Inefficient utilities. Local street connections supports more efficient utility distribution networks since utilities are typically laid within the street right-of-way.

Complete streets, another critical component to a sustainable circulation system, are defined as streets that are designed and operated to enable safe access for all users, including children, seniors and those with physical disabilities. This means that pedestrians, bicyclists, motorists and transit riders of all ages and

abilities must be able to safely use and cross the street.[2] There are many advantages to complete streets:

- Decreased vehicle miles traveled. Complete streets promote safe and convenient alternative forms of transportation – walking, biking and mass transit – and therefore encourage less reliance on the single occupancy vehicle. The decreased vehicle miles traveled will have a corresponding increase in air quality as there will be fewer vehicles to release pollutants.
- Improved Public Health. Providing safe and pleasant alternative forms of transportation encourage residents and visitors to walk and bike to their destinations or for recreation. In fact, it has been reported that 43% of people with safe places to walk within 10 minutes of home met recommended activity levels while only 27% of those without safe places to walk met the recommendation. Another study found that residents are 65% more likely to walk in a neighborhood with sidewalks.[3], [4]
- Improved safety. Complete streets reduce crashes by providing safe and dedicated areas for pedestrians, bicyclists and mass transit facilities, therefore reducing conflicts with vehicles. This is particularly important for those with limited mobility options, such as children and seniors.
- Decreased traffic congestion. Complete streets reduce reliance on single occupancy vehicles by encouraging people to reach their destination using an alternative form of transportation.

NEW ROAD SEGMENTS

The Township's roadway network has been closely studied in order to identify roadway and intersection improvements deemed necessary to support the future growth of Hamilton. This is in terms of dealing with current transportation deficiencies, as well as those anticipated with the long-range build out of developable land within the township. The key factors involved in this process include:

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2 National Complete Streets Coalition. http://www.completestreets.org/complete-streets-fundamentals/complete-streets-faq/

3 Powell, K.E., Martin, L., & Chowdhury, P.P. (2003). Places to walk: convenience and regular physical activity. American Journal of Public Health, 93, 1519-1521.

4 Giles-Corti, B., & Donovan, R.J. (2002). The relative influence of individual, social, and physical environment determinants of physical activity. Social Science & Medicine, 54 1793-1812.

- Daily traffic flows
- Peak hour traffic conditions
- Recent traffic growth trends
- Accident occurrences
- Potential development and land use patterns within the township
- External traffic growth
- Programmed roadway improvements.

A detailed study of these data as well as input from township council members resulted in a series of roadway and intersection improvements throughout the township. To supplement the upgrade of existing roadways, several key roadway extensions and new roadway segments are included in the recommendations. These are intended to complete missing segments of existing roadways, extend roadways into other existing roadways, and to provide alternate routes in order to disperse traffic flows and/or provide more direct travel routings. The roadways included in the proposed transportation improvement plan are depicted in the attached drawing, entitled "Hamilton Township Traffic Circulation Plan."

HAMILTON TOWNSHIP ROADWAY EXTENSIONS

Many of the intersections throughout Hamilton are routinely congested and overburdened. Although the area is heavily developed, an opportunity exists to create new connections between several key roadways. Several of the existing roadways classified as Major Collector and Secondary Collector can be either added on to or currently have gaps within themselves that can be connected in order to create more direct routing through the township. The Township's Circulation Plan from 1996 proposes many of these types of roadway extensions. The plan from 1996 has been revised and some of the previously proposed extensions have been eliminated, while others continue to be suggested improvements. The most recent suggested improvements, which can be found on the attached Traffic Circulation Plan are those that are felt to be feasible in respect to the surrounding roadways and existing land types. They include:

- Extending Iron Bridge Road north to intersect with Old York Road, creating a three- legged intersection east of Old York Road's intersection with Sawmill Road. This proposed extension would function as a Secondary Collector. The proposed extension of Iron Bridge Road would serve as a more direct route for motorists traveling north from the southern portion of the Township, especially for those traveling to or around the intersection of Edgebrook Road and Merick Road or the residential area adjacent to this intersection.

- Creating a new segment that would connect the segment of Flock Road that is classified as Arterial to the segment of Flock Road that is classified as a Major Collector. The proposed new segment would function as a Major Collector. It would be parallel to Paxson Avenue, to its east. The construction of this connection would create a four-legged intersection involving Flock Road and Edinburg Road. The construction of this connection would create a more direct route for motorists traveling east and westbound along Flock Road, but its primary attribute is that it would reduce the congestion at the intersection of Hughes Drive and Mercerville- Edinburg Road. This intersection currently operates at a LOS F during both the AM and PM peaks.
- Creating a new segment of Paxson Avenue that would begin at the intersection of Paxson Avenue and Flock Road and continue south to the remaining section of Pasxon Avenue. This new segment would cause the three-legged intersection of Paxson Avenue and Flock Road to become a four-legged intersection and would function as a Major Collector. The construction of this new segment of Paxson Avenue would create a more direct route for motorists traveling north and southbound along Paxson Avenue. Similar to the proposed connection of Flock Road, the proposed connection of Paxson Avenue would help to reduce traffic congestion at the intersection of Hughes Drive and Mercerville- Edinburg Road. Motorists likely travel through this intersection as a means of arriving at destinations north and south of the existing gap in Paxson Avenue. The construction of this connection would also likely reduce congestion at the three (3)- legged intersection of Flock Road and Mercerville- Edinburg Road which is also used to travel around the existing gap in Paxson Avenue.
- Extending Thomas J Rhodes Industrial Drive south, to intersect with Sloan Avenue. This would create a three-legged intersection between the existing intersections I-295 and Mercerville- Quaker Bridge Road have with Sloan Avenue and would be considered a Major Collector, as is the existing portion of Thomas J Rhodes Industrial Drive. The construction of this extension would decrease the congestion at the intersection of Mercerville- Quakerbridge Road and Sloan Avenue/ Flock Road, which currently operates at a LOS F during the AM and PM peak hours. Seeing as the extension of Thomas J Rhodes Industrial Drive would create a through street parallel to Mercerville- Quakerbridge Road, it is a reasonable assumption to predict that a percentage of motorists would begin utilizing Thomas J Rhodes Industrial Drive as a north/south

travelway. Currently, Mercerville- Quakerbridge Road is the only north/south connection from Youngs Road to Sloan Avenue in this area.

- Creating various interconnected roadways to the north and south of Route 130 in the region of Klockner Road. Specifically, two (2) new segments perpendicular to Klockner Road and Cabot Drive that will intersect with one another to form a three (3)- legged intersection north of Route 130 and west of Klockner Road. Both of these proposed segments would function as Minor Collectors. The construction of these two (2) new segments would help to reduce congestion at the surrounding intersections by providing alternate means of north/south and east/west travel for motorists. This area is surrounded by various heavily traveled roadways, and is bordered to the west by many residential streets. Additional roadways in this area will help to decrease congestion on existing roadways when traveling to and from heavily populated destinations.

Some of the previously suggested roadway extensions throughout the Township have already been constructed, while others have been eliminated due to various factors once they were further studied. The previously proposed roadway extensions that have since been eliminated include:

- The new segment of Estates Boulevard that would connect the existing portions of this road. The existing portions of this roadway are positioned west of Kuser Road and east of Klockner Road, leaving a gap located at the westerly side of Estates Boulevard. The new segment of this road would close the gap and was intended to create a simpler, more direct route. This previously proposed segment, however, has since been eliminated from the Traffic Circulation Plan, seeing as it would have to be constructed on land of which the majority is classified as wetlands.
- The extensions of Estates Boulevard and Kuser Road. The eastern limit of Estates Boulevard was previously proposed to be extended east, to intersect with a proposed extension of the eastern limit of Kuser Road. The two roadways were proposed to be extended to create a three-way intersection just north of Route 130. The intersection was proposed to consist of east and westbound Kuser Road approaches as well as a southbound Estates Boulevard approach. This proposal has been eliminated due to lack of need and desire for the intersection, and also because portions of the proposed roadways were proposed to be built on wetlands.
- The expansion of Merrick Road from its existing southern limit, south until an intersection with Old York Road would be formed. This extension was

proposed to create a four-way intersection with Yardville-Allentown Road, and would also intersect with Old York Road. The intersection with Old York Road would be a four-way intersection with the extension of Iron Bridge Road. If the Iron Bridge Road extension was eliminated, Merrick Road would then create a three-way intersection with Old Your Road. This segment of Merrick Road, however, can not be constructed, as it is proposed to be built over preserved farmland.

- The extension of Saw Mill Road from its existing western limits, at its intersection with Old York Road, west, to intersect with South Broad Street. This extension would create a three-way intersection with South Broad Street, where South Broad Street would have north and southbound legs, while Saw Mill Road would have a westbound leg. This extension is no longer proposed since it was also to be constructed on preserved farmland.
- The formation of various roadways in the region of Route 130. Several roads classified as both major collectors and minor collectors were proposed to extend from Back to Allentown Road and Uncle Pete Road, forming a small network on both sides of Route 130. These roadways were eliminated from the plan because the construction of them would disturb both existing wetland areas and the neighborhood that they would adjoin to.

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 traffic 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.[5] These methods can also encourage greater use of the street by pedestrians and bicyclists.

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

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 ignored when the design of the roadway permits motorists to comfortably travel at higher speeds. This occurs on many roads in Hamilton. 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.

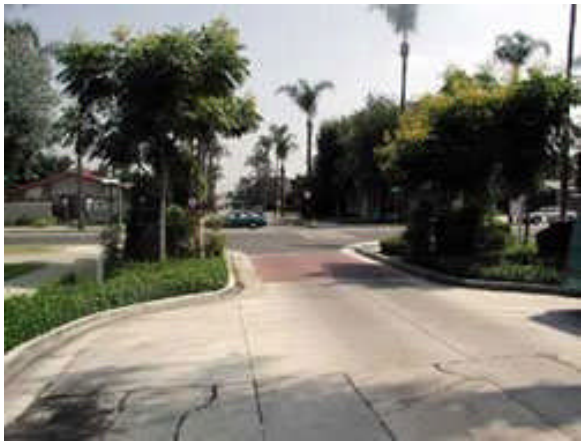
RUMBLE STRIPS:

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.

CHOKERS:

Chokers are curb extensions that narrow a street, effectively creating a pinch point along the street. Chokers can be created by bringing both curbs in, or they can be done by more dramatically widening one side at a midblock location. They can also be used at intersections, creating a gateway effect when entering a street. Chokers can have a dramatic effect by reducing a two-lane street to one lane at the choker point (or two narrow lanes), requiring motorists to yield to each other or slow down. In order for this to function effectively, the width of the travelway cannot be wide enough for two cars to pass: 16 to 17 ft is generally effective (and will allow emergency vehicles to pass unimpeded). This kind of design is usually only appropriate for low-volume, low-speed streets.



CHICANES:

A variation of the *choker* 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.

ROUNDABOUTS:

A roundabout is created by installing a raised island, which is usually landscaped, 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 and congestion. The roundabout illustrated here differs in substantive ways from the state highway circles. Roundabouts are much smaller than the state traffic circles and handle less traffic. One of the reasons that state highway circles gained their poor reputation was that the volume of traffic greatly exceeded their design specifications. Round about 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; state highways often had multiple lanes entering in the same direction. Roundabouts have been successfully implemented in Massachusetts, Washington and Oregon and are encouraged by the Federal Highway Administration. 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. Some of these reasons are listed below:

- Study has shown that roundabouts greatly reduce side impact accidents that are often the most dangerous to occupants.
- Traffic keeps moving, even if slowly, thereby reducing fuel consumption.
- 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).

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.

SUMMARY AND RECOMMENDATIONS

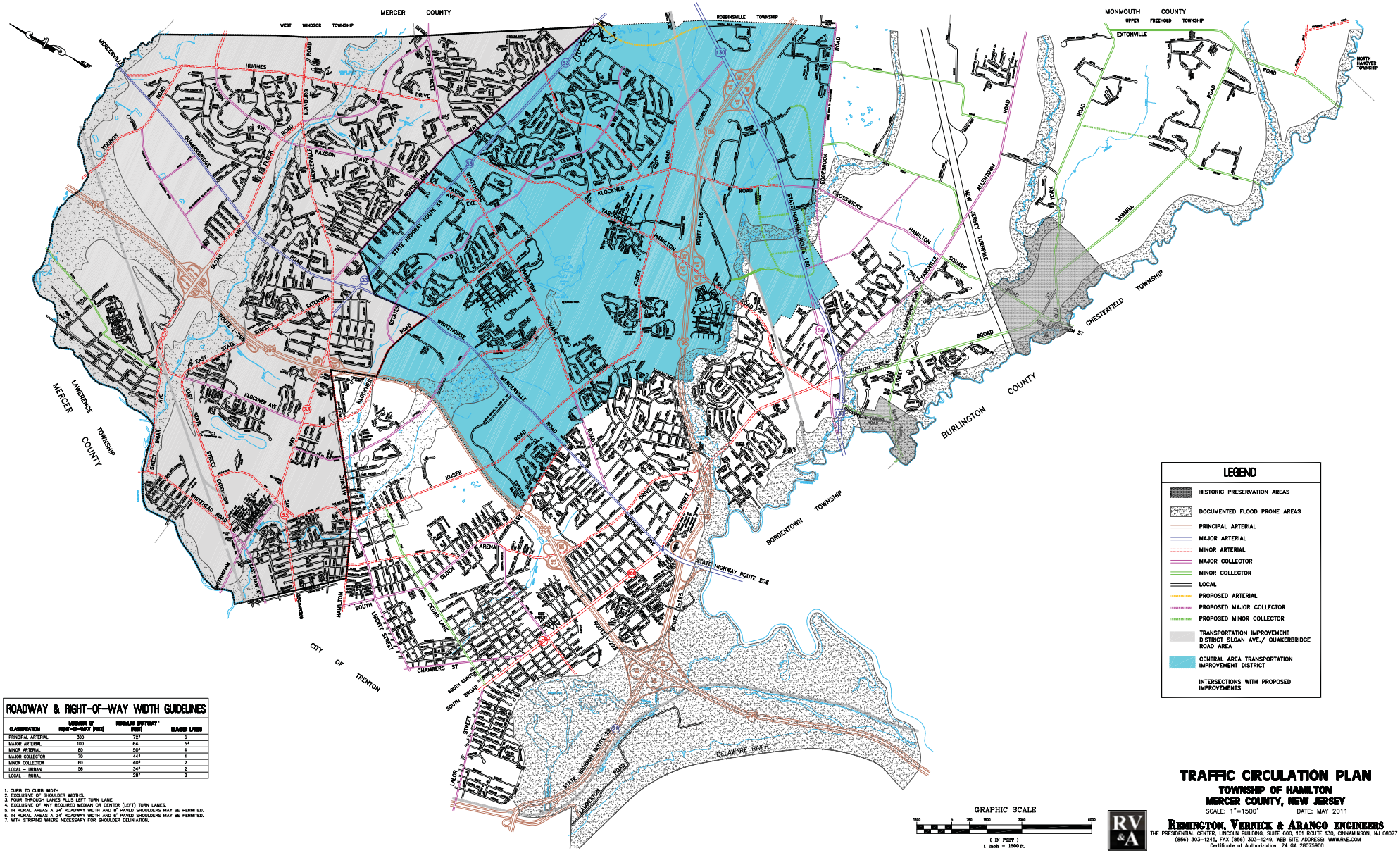
Improving the ability of people and goods to be moved in and through the Township is an important goal of the Master Plan, it is also tempered by the desire to preserve and enhance the scenic beauty of the street. It is clear that government cannot build enough road capacity to satisfy the demand that exists. Congestion will remain but through incremental physical improvements, adverse effects on the fabric of the community can be minimized. Pedestrian and bicycle networks provide an important alternative to motorized transportation, are areas where Hamilton can make substantial progress. The following recommendations are made in the Circulation Element and are depicted on the Circulation Plan as appropriate:

1) New Road Segments. It is recommended that various roadways throughout the township be extended or connected to existing roadway segments in order to improve congestion on major roadways and create a more direct means of travel. These improvements are depicted on the Circulation Plan. The final route of these roadways will

be determined by available right-of-way, environmental constraints and construction costs.

2) Sidewalk Policy. A policy for evaluating the need for sidewalks and sidewalk improvements throughout the Township has been established by Parson Brinkerhoff Inc. and a multi-year construction plan to construct missing sidewalk links has been suggested. Sidewalk and curbramps should be upgraded to meet ADA standards, gaps in the sidewalk should be filled, and appropriate lighting provided to enhance pedestrian safety. These suggestions can be found in the document entitled “Hamilton Township Bicycle and Pedestrian Circulation Study.”

3) Traffic Calming. To be instituted where deemed appropriate by statute and standard traffic engineering practice.



ROADWAY & RIGHT-OF-WAY WIDTH GUIDELINES

CLASSIFICATION	MINIMUM OF RIGHT-OF-WAY (FEET)	MINIMUM CARTWAY[1] (FEET)	NUMBER LANES
PRINCIPAL ARTERIAL	300	72[2]	6
MAJOR ARTERIAL	100	64	5[3]
MINOR ARTERIAL	80	50[4]	4
MAJOR COLLECTOR	70	44[4]	4
MINOR COLLECTOR	60	40[4]	2
LOCAL – URBAN	56	34[4]	2
LOCAL – RURAL		28[5]	2

1. CURB TO CURB WIDTH.
2. EXCLUSIVE OF SHOULDER WIDTHS.
3. FOUR THROUGH LANES PLUS LEFT TURN LANE.
4. EXCLUSIVE OF ANY REQUIRED MEDIAN OR CENTER (LEFT) TURN LANES.
5. IN RURAL AREAS A 24' ROADWAY WIDTH AND 8' PAVED SHOULDERS MAY BE PERMITTED.
6. IN RURAL AREAS A 24' ROADWAY WIDTH AND 6' PAVED SHOULDERS MAY BE PERMITTED.
7. WITH STRIPING WHERE NECESSARY FOR SHOULDER DELINIATION.

GRAPHIC SCALE

(IN FEET)
1 inch = 1500 ft.

TRAFFIC CIRCULATION PLAN

TOWNSHIP OF HAMILTON
MERCER COUNTY, NEW JERSEY

SCALE: 1"=1500' DATE: MAY 2011

REMINGTON, VERNICK & ARANGO ENGINEERS
THE PRESIDENTIAL CENTER, LINCOLN BUILDING, SUITE 600, 101 ROUTE 130, CINNAMINSON, NJ 08077
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Certificate of Authorization: 24 GA 28075900

R V REMINGTON & VERNICK ENGINEERS
PRIORITY LIST

PROJECT NAME:
TOWNSHIP WIDE TRAFFIC STUDY
PROJECT NUMBER:
1103T007
CLIENT:
TOWNSHIP OF HAMILTON

INTERSECTION	SHORT-TERM MODIFICATIONS	INTERMEDIATE MODIFICATIONS	LONG-TERM MODIFICATIONS	EXIST. LOS (AM/PM)	SHORT-TERM LOS	LONG-TERM LOS	PRIORITY RANKING
Hughes Drive & Mercerville-Edinberg Road	Revise signal timing Install lane configuration sign along NB Hughes Dr	Install crosswalks Install pedestrian push buttons Install pedestrian signal heads Install missing sidewalk along NB Hughes Dr	Provide additional left-turn lane on NB Hughes Dr approach Provide additional NB through lane	F/F	D/D	D/D	HIGH
Klockner Road & Hamilton Avenue				C/C	NA	C/C	LOW
Klockner Road & Nottingham Way			Provide left-trurn phase for SB Klockner Ave left-turn movements	B/C	NA	D/D	LOW
Kuser Road & Hamilton Avenue	Revise signal timing		Provide left-turn lane on SB Kuser Road Revise signal timing	F/F	C/C		HIGH
Mercer Street & Nottingham Way	Install lane use signs		Revise signal timing	C/C	NA	-/-	MED
Rt. 206/South Broad Street & Park Avenue	Install lane use signs			B/B	NA		LOW
White Horse Hamilton Square Road & Klockner Road	Revise signal timing		Revise signal timing	F/D	C/C	D/D	HIGH
White Horse Mercerville Road & Kuser Road	Revise signal timing		Additional left-turn lane along EB/WB Kuser Rd Update signal timing	F/F	D/D	D/D	HIGH
Arena Drive & Hempstead Road			Provide left-turn lanes along both approaches of Hampstead Rd Provide improved channelization for vehicle movements Investigate installation of traffic signal	C/C	D/D	-/-	MED
Church Street & Rt. 156				C/C	NA		LOW
Hughes Drive & Mercer Street			Provide signalization and roadway widening	--	-/-	-/-	LOW
Hughes Drive & Paxson Avenue			Provide left-turn lanes along Paxson Ave Investigate installation of traffic signal	B/B	NO SOLUTION	-/-	LOW
Rt 206, South Broad Street & White Horse Avenue			Provide signalization and realignment of approaches Investigate providing grade seperation	F/F	-/-	-/-	MED
Mercerville - Edinburg Road, Nottingham Way & Quakerbridge Road	Revise signal timing Install lane configuration signs along all approaches	Install pedestrian push buttons Install pedestrian signal heads	Revise signal timing	F/F	-/-	-/-	HIGH
Rt. 33 & White Horse - Mercerville Road	Revise signal timing		Additional left-turn lane along NB/SB Whitehorse Mercerville Rd Update signal timing	F/F*	-/-	-/-	HIGH
Klockner Road & Kuser Road		Install crosswalks		D/D	NA		MED
Rt. 33 & White Horse Hamilton Square Road	Revise signal timing	Install crosswalk along western approach	Channelize SB right-turn lane Additional through lane along EB/WB Route 33 Additional through lane along SB Whitehorse Hamilton Square Rd Revise signal timing and phasing	F**	-/-	-/-	HIGH
Sloan Avenue/ Flock Road & Quakerbridge Road	Revise signal timing	Install missing sidewalk along Quakerbridge Rd	Revise lane striping Additional lane along EB, WB, & NB approaches Update signal timing	F/F	D/D	-/-	HIGH
Rt. 33 & Shady Lane	Install lane configuration signs along all approaches	Install missing crosswalks on north and west approaches Install missing sidewalk along WB approach and NW corner	Additional lane along EB/WB Route 33 Left-turn lane along both approaches of Shady Lane Update signal timing	F**	-	-	HIGH

* Saturday peak hour / Friday PM peak hour
** Saturday peak hour

SECTION 7

Land Use

HAMILTON TOWNSHIP MASTER PLAN

SECTION 7

Land Use

Neighborhood in Hamilton Township

The Land Use Plan Element seeks to maintain a balance in land use while providing the framework for planning and policy goals. It is designed to maintain and improve the quality of life for residents, land owners and visitors to the township. The Land Use Plan Element is designed to help implement the goals and objectives of the Master Plan in map and text form as well as synthesize the policies of the other Master Plan elements.

Hamilton Township's land use pattern is characteristic of "inner ring" suburbs. The northwest portion of the Township, adjacent to the City of Trenton, has an urban land use pattern that consists of dense development and a mix of land uses. This area represents a historic pattern of development where residential, commercial and industrial land uses are located in close proximity and streets are plotted in a grid. This historic development pattern evolves as one moves south through the Township. The central portion of the Township consists largely of land use patterns typical of mid to late 20th century development. This area has a lower density and is more suburban in nature with a greater sepa-

ration of residential and commercial uses. The southern part of the Township – defined for this purpose as the area generally south of the Route 130 corridor – has a different character that the northern and central portions of the Township. This area is populated by agricultural uses and low density residential housing and as a result has maintained its rural and agricultural character.

At 40.4 square miles in size, the Township has land in nearly every conceivable land use category. However, the largest land uses are residential at 28% of the Township and preserved open space at 15% of the Township. The table below provides a breakdown of the existing land use.

Existing Land Use Distribution

Land Use	Acres	Percent of Total
Public Property	665.09	2.6%
Other Exempt	258.32	1.0%
Residential	7108.74	27.6%
Commercial	2507.24	9.7%
Industrial	612.03	2.4%
Multi-Family Residential	471.65	1.8%
Church & Charitable Property	572.80	2.2%
Farm	1827.31	7.1%
Farm Preserved	1196.79	4.6%
No Data	211.57	0.8%
Preserved Open Space	3933.34	15.3%
Public School Property	471.35	1.8%
Railroad (Class 1 & 2)	166.77	0.7%
Undeveloped	1697.46	6.6%
Utility	265.49	1.0%
Water	22.00	0.1%
Roads / River	3804.78	14.8%
Total	25,856	100.00%

The Land Use Plan Element has been organized first with the Goals and Objectives and then a discussion of a variety of land use issues which apply either to multiple zone districts or to the Township as a whole. Following the land use issues discussion is a description of the existing zone districts in the Township and a series of recommended land use changes. The final component of this Element is the Implementation Plan.

Goals and Objectives

Goal 1: Encourage properly scaled infill development and redevelopment throughout the Township's developed areas.

Objective 1a: Ensure that infill development is done in a manner that respects the style and scale of surrounding buildings.

Objective 1b: Preserve the diversity and quality of neighborhood-oriented commercial uses which principally serve the surrounding residential population.

Objective 1c: Encourage a broad range of nonresidential uses in traditionally single-use commercial centers, such as office parks and shopping centers, so as to increase convenience to patrons and reduce vehicle miles travelled.

Objective 1d: Direct the development of regional uses (retail, including entertainment, office and industrial) which serve a regional market and may be significant traffic generators to areas where there is convenient access to the regional highway and/or rail network.

Objective 1e: Review the official zoning map and modify districts where necessary to better match zoning to existing development patterns.

Objective 1f: Promote mixed-use neighborhood centers in order to encourage redevelopment of large underutilized properties, enhance opportunities for residents to shop locally and to reduce vehicle miles travelled.

Objective 1g: Support site remediation efforts on contaminated sites in order to improve the appearance of unsightly properties, support their eventual reuse and improve the Township's environmental health.

Goal 2: Preserve the quality of residential neighborhoods.

Objective 2a: Discourage conversion of residentially-zoned properties to retail, office and industrial uses and the conversion of single family homes into multi-family structures.

Objective 2b: Minimize and mitigate conflicts between residential and retail, office and industrial uses with adequate setbacks and screening to reduce visual, noise and lighting impacts of the nonresidential development on the neighboring residential lots.

Objective 2c: Promote creation and maintenance of community facilities, such as parks and locally oriented retail and service centers to strengthen neighborhoods.

Goal 3: Pursue the preservation of productive agricultural lands, wildlife corridors and environmentally sensitive lands via fee simple acquisition, land trust dedication, conservation easement, development clustering and similar strategies.

Community Design

Goal 4: Promote the development and redevelopment of attractive retail, office, industrial and mixed-use areas through the application of architectural and site design standards.

Objective 4a: Utilize design strategies to promote safe environments – particularly in public assembly areas – and to reduce crime.

Objective 4b: Encourage creation of a unique sense of place through distinctive design features, such as architecture and streetscape designs, for the Township's prominent commercial corridors that reflect the particular character of each.

Objective 4c: Where pedestrian access is encouraged, require pedestrian-friendly site design, such as providing pedestrian access from the street to the building and orienting buildings toward a public street, rather than a parking area.

Objective 4d: Establish signage standards which will be appropriate for both new development and redevelopment and which will foster a cohesive, clear image in the commercial corridors of the Township.

Objective 4e: Encourage the elimination of billboards in areas which are visually prominent in residential, retail and office areas.

Goal 5: Promote the clustering of home sites in new residential subdivisions and discourage conventional large lot subdivisions within environmentally sensitive areas and on sites lacking public infrastructure in order to retain open space, farmland, and to preserve the natural environment.

Historic Preservation

Goal 6: Increase public awareness, knowledge, and appreciation of historic districts and buildings and of the programs and resources that can be used to assist historic preservation activities.

Objective 6a: Promote the development of driving tours, walking tours, informational brochures, and other methods of increasing public awareness of historic resources in the Township.

Objective 6b: Promote the installation of interpretive signage for historic properties by private owners, historical organizations, and governments.

Objective 6c: Maintain productive partnerships among various organizations and agencies to promote and accomplish historic preservation goals.

Goal 7: Support the rehabilitation and reuse of historic buildings in a way that is compatible with the historic context.

Objective 7a: Promote rehabilitation of historic buildings in identified areas consistent with the building's historic style and in a manner that is consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties.*

Objective 7b: Encourage and facilitate the donation of preservation, scenic, and conservation easements as a means of providing a financial incentive for the preservation of historically significant privately-owned properties.

Objective 7c: Continue the current practice of seeking Hamilton Historic Preservation Advisory Commission commentary on all applications for development which could impact a historic building and/or district.

Goal 8: Identify and document historic buildings and districts within the Township which, due to their historic character, are worthy of preservation.

Housing

Goal 9: Promote the rehabilitation of substandard housing throughout the Township.

Objective 9a: Prioritize rehabilitation programs in areas of disinvestment to enhance neighborhood pride, resident quality of life and eliminate unsafe conditions.

Goal 10: Meet the Township's constitutional obligation to provide for its fair share of the region's need for low and moderate income housing, as that obligation is defined by State statute and court precedent.

Objective 10a: Provide a variety of housing types and unit sizes, affordable to households with a range of incomes, including workforce housing, particularly within walking and biking distance of transit, service centers and employment centers.

Agriculture

Goal 11: Preserve and promote the agricultural character in the southeastern part of the Township.

Objective 11a: Provide assistance to the Township's farmers by supporting right-to-farm policies.

Objective 11b: Ensure that future development in and adjacent to agricultural lands utilizes rural design techniques to minimize the intrusion of development into the agricultural landscape.

Objective 11c: Preserve vistas of agricultural and environmentally sensitive lands to promote the visual enjoyment of the land.

Art & Culture

Goal 12: Incentivize development and redevelopment which is supportive of arts and culture, particularly within the Arts and Culture Overlay in order to enhance the quality of life for residents and regional visitors to the area.

Objective 12a: Adopt zoning incentives for the development and redevelopment of arts and culture uses in the Arts and Culture Overlay District. Arts and culture uses should include but not be limited to indoor and outdoor gallery space, performing arts space, lecture halls or related training facilities, artist studio space and artist live/work space.

Objective 12b: Adopt zoning incentives for development and redevelopment within the Arts and Culture Overlay District that will provide for mixed use and various commercial uses in order to foster the following:

- An expanded customer base in the immediate area;
- A variety of uses that will attract local and regional visitors, such as dining, shopping and entertainment uses;

Objective 12c: Promote development of office, rehearsal and meeting spaces for cultural organizations, spaces for the creation of art and theater spaces within the Arts and Culture Overlay District; and

Objective 12d: Promote the adaptive reuse of the Township's vacant and underutilized industrial and manufacturing buildings in the Arts and Culture Overlay District for uses that are consistent with or complementary to arts and culture.

Goal 13: Enhance the built environment of the Arts and Culture District through the installation of public art.

Objective 13a: Support the installation of public art including but not limited to sculpture within the Arts and Culture Overlay District. Other types of public art may include murals and decorative art integrated into the built environment.

Objective 13b: Create a network of wayfinding art installations and signage to achieve the following:

- Raise awareness of art and culture in the community;
- Provide direction to art and culture facilities in the Township;
- Create/reinforce connections between regional transportation systems, such as the Hamilton Train Station and Interstate 295, and art and culture facilities, such as the Grounds For Sculpture; and
- Leverage art and culture activities to boost tourism in Hamilton Township and increase civic pride.

Goal 14: Foster community art and cultural events within the Arts and Culture Overlay District and Hamilton Township as a whole.

Objective 14a: Consider parks, libraries, schools, community centers and historic buildings as venues for arts and cultural activities;

Objective 14b: Explore ways the municipality can partner with area schools to promote the presence of art in the community as well as arts and culture education and activities; and

Objective 14c: Explore partnerships with arts and cultural organizations in order to foster the increased presence of art and culture in Hamilton Township.

Land Use Issues

In the course of examining development and redevelopment policies in Hamilton Township, several issues arose that are relevant to the Land Use Element. Many of these issues apply to the Township as a whole and/or multiple zone districts and, thus, are addressed below in advance of the discussion of particular zone districts.

Adoption of the 2011 Master Plan creates a number of new resources which can inform the consideration of development applications. The various goals, objectives and policies in the new Master Plan elements can be applied to each development application. Additionally, the Environmental Resources Inventory, which is a foundation document of the Conservation Element, provides extensive information about the Township's environmental conditions that should be addressed during development reviews.

Incorporating this abundance of new information will require a balance of competing goals. As one of many examples, the goal of promoting renewable energy (as addressed in the Green Building and Environmental Sustainability Plan Element) may need to be weighed with the goal of preserving neighborhood character (as discussed in the Land Use Plan Element, as well as the Green Building and Environmental Sustainability Plan Element). In each case the Goals and Objectives of the Master Plan are a resource to guide the balancing process.

Community Design

Design standards should be used to promote attractive neighborhoods and commercial and industrial areas. Standards which address architecture as well as site design, such as but not limited to lighting, plantings and parking design, have a significant impact on an area's desirability. New development should be required to promote a unique sense of place through distinctive site design that differentiates the particular neighborhood or commercial district from other parts of the Township.

The architectural design of new and renovated buildings has a significant impact on the character of an area. Architectural design standards can be instrumental in ensuring quality in the built environment such that attractive and worthwhile neighborhoods and destinations are created. Additionally, interesting and context sensitive architecture can mitigate the visual impact of new development on the surrounding land uses. Compatible building designs, in terms of building massing, materials and character, should be required through architectural standards, particularly where commercial uses abut residential uses.

The Township currently regulates the architecture of warehouse buildings; consideration should be given to expanding that regulation to include minimum design standards for all commercial buildings. Such standards could specify basic design considerations such as, but not limited to, the prohibition of blank walls facing public areas, building massing and building materials. However, more precise design standards should be required in areas with a particular architectural character. For example, in areas where there is a historic character, design standards should reinforce the historic character and require

that any new development be compatible with it. This has been done in the area of the Nottingham Way and Mercer Street intersection which has been declared an Architectural Preservation Area; however, standards to maintain the architectural integrity in this area have not yet been created.

Economic Development

The link between the Land Use Plan Element and the Economic Development Plan Element is particularly close since the Economic Development Plan identifies a number of strategies for strengthening the Township's economic prosperity through land use policies.

Zoning is a powerful tool for motivating redevelopment and revitalization consistent with economic development goals; as such, the Township has identified multiple properties where enhanced mixed-use zoning may be a useful technique. As described in the Economic Development Element, mixed use development can change the form and function of a development site from a single use (often single story) building to a comprehensive plan including one or more buildings with multiple stories that include residential units or office space above with open space, circulation and parking. This type of zoning can lead to a diversified revenue stream for the property owner, expand the customer base in the immediate vicinity of the project and create a greater "people presence" which can increase safety and activity levels at commercial destinations.

Robert Wood Johnson University Hospital

With the combination of Robert Wood Johnson Hospital, the Capital Health outpatient facilities and the expanded presence of the Genesis Biotechnology Group, Hamilton Township is raising its stature in New Jersey as a hub of medical technology and related offices and support services. The Township is well positioned for growth in this sector since undeveloped land with limited environmental constraints is available with excellent highway access and public water and sewer in the central part of the Township in proximity to these major medical and biotechnology uses. The Township can remain an attractive location for these industries by providing zoning which clearly articulates the desired result of development and redevelopment and by maintaining the quality of life and amenities which makes Hamilton an attractive place for such industries to locate.

Historic Preservation

Districts and sites which have retained their historic character should be documented and preserved. The Township has two historic districts on the National Register – Groveville Historic district, which consists of 39 properties bounded by Crosswicks Creek, Church Street, Main Street and Allen Street, and the North Crosswicks Historic District, which is bounded by Church Street, Mill Road, Cross Street, Old York Road, South Broad Street and Crosswicks-Hamilton Square Road. Additionally, the Township has 36 sites identified as having historic significance. Both of these districts have been designated by the Township as Historic Preservation Areas. Of these sites, eight were transportation-related resources, including four bridges, three railroad corridors, and the Delaware & Raritan Canal Historic District; 15 were archaeological sites or districts and 13 were buildings. Many of these historic resources are being evaluated

John Abbott II House

Recent development whose style and character is compatible with the historic character of Hamilton Square

as part of a *"Reconnaissance-Level Historic Sites Survey"* being prepared for the Hamilton Township Historic Preservation Advisory Commission and the Historical Society of Hamilton Township. The Planning Board should consider incorporating this work into a Historic Preservation Element of the Master Plan in the future.

The Township's Historic Preservation Advisory Commission currently reviews development applications for sites which are historic or are within a historic district and provides recommendations to the Planning Board / Board of Adjustment. The recommendations that result from this process should be consistent with those the Secretary of the *Interior's Standards for the Treatment of Historic Properties* in order to retain the property's and/or building's historic integrity. Pursuant to the Land Development Ordinance, the purpose of the Commission is as follows:

- Encourage the continued use of historic resources and facilitate their appropriate reuse.
- Safeguard the heritage of the township by preserving resources which reflect elements of its cultural, social, economic and architectural history.
- Maintain and develop an appropriate and harmonious setting for the historic and architecturally significant buildings, structures, sites, objects or districts within the township.
- Stabilize and improve property values and discourage the unnecessary demolition of historic resources.
- Foster and enhance civic beauty and neighborhood pride.
- Promote appreciation of the historic districts which may be established in the township for the education, pleasure and general welfare of the citizens of the township and its visitors.
- Encourage private reinvestment in existing or new structures in a manner that preserves, restores, repairs or is compatible with the original architectural style which is characteristic of any historic districts which may be established in the township.
- The Historic Preservation Advisory Commission should continue working with the Planning Board / Board of Adjustment to ensure that development in or in proximity to the Township's historic resources retains the historic integrity and character of the site/district. The Township should continue efforts which preserve historically significant properties through acquisition and/or preservation easements.

Shared parking for businesses along Route 33 in Mercerville

Connectivity

To maximize the relationships between the Township's commercial centers and residential neighborhoods, it is important that they be linked by vehicular, bicycle and pedestrian connections along the street and between properties. Additionally, the Townships should promote interconnectivity and shared parking. This policy can be implemented with shared driveways and vehicular connections between adjacent parking lots. This would not

only increase the total available parking, increase the convenience of visiting adjacent destinations and would reduce traffic on the streets. As discussed in the Circulation and the Green Buildings and Environmental Sustainability Plan Elements, additional benefits from these connections that may occur consist of reduced dependence on the vehicle, reduced vehicle miles traveled, an enhanced streetscape and additional opportunities for residents to engage in physical activity.

Neighborhood Preservation

Residential infill development and redevelopment should be sensitive to the scale and character of the surrounding residential homes in order to prevent a visual intrusion in the neighborhood. The increase in average size of new housing units in the United States over recent years has been well-documented by both the commercial media and professional planning literature. This issue is most prominent in areas experiencing "tear downs" where an existing modest sized home is replaced with one which is much larger and out of scale with the established neighborhood.

Residential neighborhood along Nottingham Way

While tear-downs have not yet been prevalent in Hamilton, conversion of residential properties in residential districts to commercial properties are occurring and can be responsible for neighborhood disruptions in the form of traffic, lighting and noise. Additionally, the site design commonly required by commercial development, including the need for expansive parking lots and buildings which are out of scale with surrounding residences, can be incompatible with residential neighborhoods. Similarly, conversion of single family homes to multi-family structures can be disruptive to a neighborhood since multi-family structures have significantly higher demand for parking and lighting and can generate significantly more traffic and noise. Such conversions are discouraged in order prevent intrusions in Township's established neighborhoods.

Briarwood shopping center on Kuser Road

Commercial development adjacent to residential districts should have a character and scale which is compatible with the surrounding area. The typical negative impacts of commercial uses should be limited so they do not unduly impact the surrounding residential neighborhoods and their quality of life. These negative impacts can be constrained by design standards which are sensitive to the adjacency of residential development and include such items, but is not limited to, preventing light spill over, planted buffers and building and parking setbacks that reduce noise, smell and visual impact. Additionally, architectural standards which address items such as building massing, materials and character can mitigate the impact of commercial development adjacent to residential uses.

Community Development

Community development can be described as the process of helping a community strengthen itself to reach its full potential. It often focuses on principles which address the social and economic well being of the community in part through building relationships between the community and the government, nongovernmental organizations (such as nonprofits or neighborhood organizations) and the community members themselves. Community development is strongly rooted in enhancing quality of life as it can strength-

en community bonds and promote revitalization.

The Township can strengthen activities aimed at community development, such as but not limited to improving parks, circulation and community facilities, by working with existing organizations which represent users of the intended improvement(s). Much like the Open Space and Recreation Plan Element recommends working with the intended users of a park to determine the appropriate and desired amenities, similar actions can be taken to address other improvements such as those related to circulation concerns.

To date, much of the Township's community development activities have focused on the northwest section of Hamilton, known as the Bromley neighborhood. This dense neighborhood is adjacent to the City of Trenton and in recent years has been showing signs of disinvestment. The Township has been addressing the challenges in this neighborhood through such programs as targeted rehabilitation and infrastructure improvements which are federally funded by the Community Development Block Grant Program. In 2007, Isles Inc., a prominent community development organization in the area, prepared the report titled *Bromley Neighborhood – East State Street Corridor Planning Initiative.* This report provides an analysis of the existing neighborhood conditions and offers a number of strategies and recommendations for enhancing the neighborhood and addressing its challenges. While a portion of these recommendations are not actions are not applicable to the Master Plan, there are a number related to land use decisions that are supported by this Master Plan. The recommendations relevant to land use decisions fall into the categories of site and street lighting, historic preservation, signage, public art, streetscaping, economic development, circulation, and storm drainage.

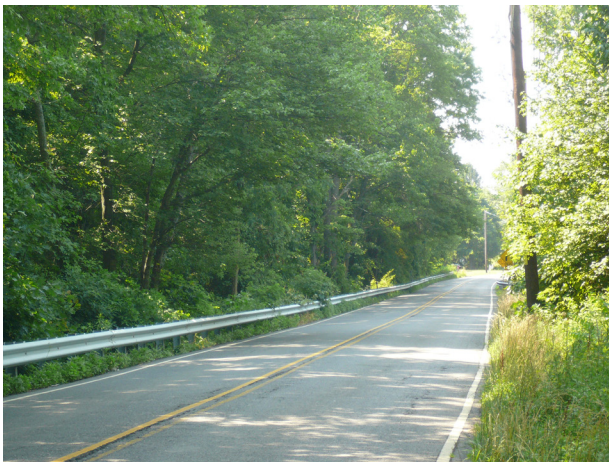
Agriculture & Rural Character

Hamilton Township is unquestionably a modern suburban community but it continues to retain a strong element of its rural agricultural heritage. The Township represents one of only six municipalities in Mercer County with significant remaining farmland.[1] The southern portion of the Township is included in the Mercer County Agricultural Development Area which has been targeted for preservation due to areas of prime agricultural soils, viable agricultural activities, and the proximity to regionally significant areas of agriculture in Burlington and Monmouth Counties. Hamilton however, like most central New Jersey

1 *Mercer County Farmland Preservation Plan, 2009, page 7.*

municipalities, has experienced tremendous pressure for residential and commercial development of farmlands.
The Township recognizes the importance of farmland, not only for food production, but also for the aesthetic value of the working landscape, which improves the quality of life by defining the remaining rural character of the community. Farmland benefits the community-at-large by providing open space, ground water recharge areas, wildlife habitat and scenic beauty. Compared to other open space, farmland continues to provide tax revenue and uses significantly fewer services than developed land. Agriculture provides jobs and supports related services and industries crucial to the economic well being of the community.

Hamilton Township values the agricultural industry as well as the farmland base as demonstrated through the 1991 adoption of a Right to Farm Ordinance which includes a Right to Farm notification clause imposed on the deeds of all new subdivisions adjacent to existing farmlands. Innovative land use techniques such as lot size averaging and clustered development designed to minimize intrusions into valuable agricultural areas are options in the Rural Resource Conservation (RRC) district, which encompasses most of the Township's remaining farmland. This District is also excluded from the sewer service area which further limits the intensity of development and potential conflicts with agriculture.



The Township's desire to protect its rural character is best achieved by a combination of appropriate land use patterns, preservation and design guidelines. Proper building design with materials and colors that are consistent with the area's rural heritage can enhance the rural and agricultural character of the site and surrounding areas. Additionally, site design which maintains vistas of farmland and environmental features as well as the naturally planted buffers along scenic roads are critical to maintaining rural and agricultural character.

Billboards

Billboards are large signs that almost always carry messages for establishments or organizations that are in another location ("off-premise"). Billboards usually carry commercial messages and occasionally public service announcements. Both of these kinds of messages are protected speech under the first amendment of the constitution; however, court decisions have allowed the stricter regulation of commercial speech under what are called "time, place and manner" standards that are based on public safety concerns, such as traffic safety, as well as aesthetic concerns. These permissions in the law allow the Township to regulate billboards and other signs to appropriate locations. For example, billboards are not appropriate in areas visible from residential zones and are out of character with small- and modest-scaled commercial districts. The visual clutter and intrusion of these structures are detrimental to the quality of life of persons and neighborhood aesthetics. Billboards have also been found to contribute toward driver distraction; particularly the digital billboards whose messages periodically change. Separating their placement and restricting the use of digital signs are thus appropriate regulatory powers of the municipality.

Any proposal for billboard development must be evaluated for safety concerns. Billboard controls would improve the appearance of the Township, including neighborhoods and

open lands along public roadways. Controls should keep such signage from interfering with the visibility, readability and/or effectiveness of on-site signs by reducing and/or diminishing the visual clutter of off-site signs, enhance the Township as an attractive place to live and/or work, reduce blighting influences, and will benefit traffic safety by reducing driver distractions. Conversely, new billboard controls may also indicate appropriate locations for their installation where safety concerns may be minimized.

Zoning Consistency

The Land Development Code should be amended to provide alternative lot standards (setbacks, lot width, lot depth, impervious cover, etc.) for residential lots which are undersized for their zone district. There are residential developments, most notably in the Rural Resource Conservation (RRC) district which have many nonconforming conditions. The Land Development Code should be amended to create alternative standards for these lots that will enable property owners to improve their homes with additions, etc. without requiring variances from the Board of Adjustment.

This Master Plan Element identifies a number of locations where the zoning should be amended to create consistency between the district and the existing uses. However, this policy of enhancing consistency should be applied to all areas of the Township which have been developed contrary to the character of the zone district.

Residential Zone Districts

The character of the Township's residential districts varies widely – from the small neighborhood lots of the R-10 district to the large rural lots of the RRC district. The various neighborhoods in the Township offer every variety of housing type and housing for a very wide range of incomes.

The Land Development Code should be reviewed to enhance uniformity for topics common in the residential districts. Such uniformity creates equal treatment for all homes with similar characteristics. For example, accessory uses should be evaluated to ensure consistent language and permitted uses throughout, as appropriate, and should be expanded to permit accessory uses which are customarily incidental to a permitted principal use.

A/T Multiple-family (A/T) Zone District

The A/T district is the Township's primary multi-family housing district and consists of 18 separate areas. The district permits apartments and condos at a maximum density of 10 dwelling units per acre. Conditional uses include public utilities, houses of worship and publicly subsidized senior housing. These districts contribute significantly to the Township's diversity of housing stock, as they host the majority of townhouses and multi-family units. Accordingly, they ensure that Hamilton Township can support a diverse population in terms of age, lifestyle and income. The A/T districts are generally located adjacent to or in close proximity to retail and service centers. The relationship between this zone and the Township's commercial areas are important since it provides a larger customer base in proximity to the businesses, as compared to the Township's single-family detached housing, and ensures the district residents convenient access to goods and services.

Conservation (C) Zone District

This district is largely characterized by publicly owned and environmentally constrained open space. Lands in this zone district include Veterans Park in the center of the Township and environmentally constrained land on the periphery of the Township – as well as open space west of exit 61a of Route 295. Much of the zone district consists of wetland associated with the Shabakunk Creek, Miry Run and Crosswicks Creek. The Land Development Code permits three principal uses – farms, detached dwelling units and public open space areas. The minimum lot size is 5 acres. Conditionally permitted uses include public utility installations, private golf courses and home occupations. Accessory uses include those typical to residential units; however, this section should be updated. For example, the limitation on keeping not more than two animals for domestic purpose or for cultivation of the soil does not reflect current homeowner needs and concerns. The bulk standards for accessory uses in the C district should also be amended for consistency as modest sized sheds are permitted 3 feet from the property line where as other accessory structures are permitted 50 feet from the property line.

Planned Retirement Development Zone (PRD) District & Planned Retirement Development Overlay (PRD Overlay) District

This district and overlay zone share zoning standards in the Land Development Ordinance. The Planned Retirement Development district is located at the western boundary of the Township along both Interstate 195 and Edgebrook Road. The Planned Retirement Development Overlay district is located on the south side of Yardville-Hamilton Square Road on either side of Interstate 195. The purpose of the District is to provide for a variety of dwelling unit types and/or health care facilities and services for the elderly population in the Township and region. Dwelling units in a planned retirement development are intended for mature adults, 55 years of age or older, and contain a variety of housing types and services to satisfy a wide range of the lifestyles. A planned retirement development shall contain recreational support facilities and may include health care facilities specifically designed for these individuals. A variety of housing types are permitted, each with its own bulk standards, ranging from detached single family homes and single-family zero lot line homes on 5,000 square foot lots, townhouses on 2,000 square foot lots and multi-family homes. Additional permitted residential uses include independent living facilities and nursing homes. The gross density shall not exceed 6 dwelling units per acre. Other permitted uses include recreational and cultural facilities. A minimum of 20% of the lot shall be devoted to conservation, open space and/or recreational purposes.

Planned Retirement Development R7 and R25 Zone Overlay Districts

These overlays use the standards for the Planned Retirement Development Overlay Zone to create an additional development options in the R7 and R25 districts. The R-7 Overlay is located in an area in the northern part of the Township surrounding Kyle Court, a cul-de-sac off of Mercer Street and consists of single-family homes fronting on either Kyle Court or Mercer Street, and the Nottingham Firehouse adjacent to the north. The homes constructed in the R-7 Overlay district were built in accordance to the R-7 standards and are not age-restricted. The R-25 Overlay is located between Whitehorse Hamilton Square Road and Yardville Hamilton Square Road. It is developed with a single-family home age-restricted development.

Rural Resource Conservation (RRC) Zone District

This district is located in the southeastern part of Hamilton Township. The purpose of the Rural Resource Conservation (RRC) district is to respond to the Township's longstanding planning objectives to conserve rural character, retain farmland for agricultural use, and

protect surface waters, woodlands and environmentally sensitive lands. The RRC district's location beyond the sewer service area has prevented rapid suburbanization, distinguishing it from the remainder the Township and much of the region.

The RRC district is dominated by highly productive farmland soils that are part of a regional agricultural belt extending southward into Burlington County and eastward into Ocean County. The RRC district also includes extensive wetlands and wooded stream corridors, including headwater tributaries to the Crosswicks Creek and Delaware River that affect downstream water quality. This diverse landscape provides a variety of habitat types suitable for threatened and endangered species, including grasslands, emergency wetlands, upland forest, forested wetlands and balk eagle foraging habitat (along Crosswicks Creek) within the RRC district.

The combination of highly productive farmlands and sensitive natural resource land of the RRC district makes this a unique area in the Township. The RRC district's zone standards are designed to maximize the retention of farmland and other natural resource lands and maintain the ecological integrity of the area as permitted development proceeds. Principal permitted uses in the district generally include farms, single-family residents, public lands and public buildings. Also listed as a principal permitted use is not more than two animals for domestic purpose or for cultivation of the soil. This item should be removed as it does not reflect current homeowner needs or concerns.

This district permits three development options for residential use – lot size averaging, open land subdivision and conservation cluster subdivision. All three options are intended to provide flexibility as a way to promote preservation of rural character, productive farmland soils, woodlands and other critical habitats. The density permitted for the lot size averaging option (development option I) is .16 units per acre with a minimum lot size of 40,000 square feet. This option allows for all land to remain in private ownership. However, at least 75% of the lots must have a minimum lot area between 40,000 and 80,000 square feet. As a result, any lot size averaging subdivision will result in a minimum of one lot sized to support a farm use and/or contiguous woodlands or other critical habitat. However, at least 75% of a tract shall be deed restricted for open space. The open lands subdivision option (development option II) also permits a density of .16 units per acre with a minimum lot size of 40,000 square feet. The final option, the conservation cluster subdivision (development option III), similarly has a permitted density of .16 units per acre and a minimum lot size of 40,000 square feet. However, one bonus dwelling unit is given in return for permanent open space dedication.

Single Family (R-5, R-7, R-10 and R-15) Zone Districts

These single family districts are scattered throughout the Township with the R-10 district having the largest land area. The permitted uses and design standards in these districts are the same; it is only the bulk standards that differ. Each zone district generally permits the following principal uses – detached single family homes, public lands, public buildings, horticultural uses (including nursery and greenhouses) and farms. Permitted conditional uses include golf course (excluding driving ranges and miniature golf), hospitals and similar uses, nursing homes, houses of worship, schools, public utilities, senior housing

(R-15 and R-10 districts only), office conversions in particular areas of the R-7 and R-10 districts and funeral homes. Lot sizes vary in these districts with the R-5 district having a minimum lot size of 5,000 square feet, the R-7 district having a minimum lot size of 7,000 square feet, the R-10 district having a lot size of 10,000 square feet and the R-15 district having a minimum lot size of 15,000 square feet.

Special Housing Zone 1 (S1), 2 (S2) and 3 (S3) Districts

The Special Housing Zone 1 consists of one development on the south side of Broad Street in the southern part of Broad Street and known as the Highland development. The purpose of the district is to implement the Housing Element and Fair Share Plan, as granted second round substantive certification by the Council on Affordable Housing. Pursuant to the current zone standards and the approving resolution, the development conforms to the R-7 zone district. The Township should consider rezoning the tract to the R-7 district in an effort to simplify the ordinance as this affordable housing zoning designation does not impact the function or form of the development.

The Special Housing Zone 2 consists of one inclusionary development, known as McCorristan Square, along Leonard Avenue. The purpose of the district is to implement the Housing Element and Fair Share Plan, as granted second round substantive certification by the Council on Affordable Housing. This affordable housing project contains a total of 70 affordable rental units, of which 58 are age-restricted and 12 are family units. Permitted uses include low and moderate income age-restricted and/or disabled household apartments, parks and government buildings.

The Special Housing Zone A3 consists of one development, known as Project Freedom, which host multi-family housing for low and moderate households where one or more member is physically disabled. The development is located in the western part of the Township along Kuser Road on an approximate 6 acre property.

Commercial & Mixed Use Zone Districts

Opportunities for nonresidential development, per the Land Development Ordinance, range from small neighborhood stores in the Community Commercial district to regional shopping in the Planned Commercial Development Overlay district of the Research Development district and manufacturing of a range of products in the Manufacturing District.

The majority of design standards, such as parking and buffers, are located in General Regulations and Design Standards section of the land development Code; however, some of districts described below also contain such standards. The Land Development Code should be revised to provide uniformity for topics common in the commercial and mixed-use districts. For example, parking requirements should be specified by use rather than zone and tree planting requirements should be consistent for specific uses throughout the Township. The accessory use section of these districts should be evaluated to permit those uses which are customarily incidental to a principal permitted use. Additionally, the permitted uses in these districts should be evaluated for overlap.

Neighborhood Commercial (NC) District

The Neighborhood Commercial district was established adjacent to residential districts to permit the establishment of uses which support daily local business and/or convenience needs of residents the immediately surrounding residential areas. A variety of retail and service uses are permitted, including, but not limited to, a hardware store, barber shop, book store, clothing store, luncheonette, shoe repair shop, art gallery, child care center and video store. Also permitted are existing residences and conditionally permitted are public utilities, nursing homes and houses of worship. The maximum permitted floor area ratio is .15 and the maximum building height is 35 feet. These districts are located throughout the Township and typically consist of small or moderate scale single-story retail businesses.

Community Commercial (CC) District

The Community Commercial district is intended to serve a larger residential population than the Neighborhood Commercial district. The district areas are almost entirely developed and are located to take advantage of relatively good accessibility from the developed concentrations within the Township. A variety of retail and service uses are permitted, including, but not limited to, all uses permitted in the Neighborhood Commercial district, restaurants, banks, offices, funeral homes, and appliance stores. Conditionally permitted are public utilities, service stations, nursing homes and houses of worship. The maximum permitted floor area ratio is .18 and the maximum building height is 35 feet. These districts are located throughout the Township and typically consist of moderate scale single-story retail businesses.

General Commercial (GC) District

The General Commercial District is intended to allow a wide spectrum of commercial activities not necessarily associated with highway access or the traveling public. The permitted uses, which are identical to those of the Highway Commercial (HC) district, include all uses also permitted in the Neighborhood Commercial (NC) and Community Commercial (CC) districts as well as a variety of additional uses, such as, but not limited to, manufacturing plants, distribution centers, contractors storage and taxi cab and bus companies. Conditionally permitted uses include public utilities, service stations, carwashes, auto sales and fast food restaurants. The district is located in the Bromley neighborhood in the area of the East State Street and Nottingham Way intersection as well as along the north side of Olden Avenue between Interstate 295 and Newkirk Avenue. The Township may wish to reconsider the appropriateness of this designation in the Bromley neighborhood since it permits uses which have not been implemented and may be out of scale and character with the surrounding residential neighborhood – such as a catering establishment, warehouses and a lumberyard. The maximum permitted floor area ratio is .20 and the maximum building height is 35 feet.

Highway Commercial (HC) District

Highway Commercial (HC) districts are intended to provide locations in the Township where highway-oriented businesses servicing the needs of highway users and encompassing a broader service area than General Commercial (GC) zones may be located. The permitted uses, which are identical to those of the General Commercial (GC) district,

include all uses also permitted in the Neighborhood Commercial (NC) and Community Commercial (CC) districts as well as a variety of additional uses, such as, but not limited to, garden centers, supermarkets, business colleges, catering establishments and equipment rental yards. Conditionally permitted uses include public utilities, service stations, carwashes, auto sales and fast food restaurants. This district is located throughout a portion of nearly all the Township's major commercial thoroughfares, such as Route 33, Quakerbridge Road, Olden Avenue, South Broad Street, Whitehorse Mercerville Road, and Route 130. The maximum permitted floor area ratio is .20 and the maximum building height is 35 feet.

Highway Commercial Design District I Overlay

The purpose of the HC Highway Commercial Design District I is to provide convenient, aesthetically pleasing and pedestrian-sensitive areas for shopping for the citizens of Hamilton and for highway users in general, without compromising the carrying capacity of the highways. It is intended that this can be achieved by improving circulation between sites by encouraging shared access and shared parking and by providing yard criteria that encourage rear and side yard parking. This overlay is designated along the Route 33 corridor from Weston Avenue to Paxson Avenue Extension. The Overlay district prescribes bulk and design standards, such as sign standards, which advance its purpose of providing convenient, aesthetically pleasing and pedestrian-sensitive areas. These design standards should be considered for all areas of the HC district as they promote pedestrian sensitive design, which is consistent with recommendations in the Circulation and Green Buildings and Environmental Sustainability Element.

Highway Commercial Design District II Overlay

The purpose of the HC Highway Commercial Design District II is to provide convenient, aesthetically pleasing and pedestrian-sensitive areas for shopping for the citizens of Hamilton and for highway users in general, without compromising the carrying capacity of the highways. It is intended that this can be achieved by improving circulation between sites by encouraging shared access and shared parking and by providing yard criteria that encourage rear and side yard parking. This Overlay district is located along Chambers Street, between Cedar Lane and South Broad Street, and along South Broad Street between Cedar Lane and Park Avenue, including the property zoned HC highway commercial on the northeast corner of South Broad Street. This are represents a more urban and pedestrian oriented character than the other portions of the HC districts. It permits additional uses than those in the HC district such as additional commercial uses and existing residential uses. The bulk requirements in this Overlay district area adjusted to account for the small lot sizes and intensity of existing development; for example the minimum lot size is 5,000 square feet and the maximum floor area ratio is .60. The district requires streetscaping consistent with the pedestrian oriented character of the area.

Government Service Center (GSC) District

The GSC government service center area has been designated in recognition of both the existing Township facilities located within the area and the excellence of the land area for the future location of additional government service facilities. This district located in the central portion of the Township, along Whitehorse Mercerville Road, and enjoys excellent

road accessibility. It permits uses such as, township uses, banks, theaters, offices, child care centers and uses permitted in the Highway Commercial (HC) district with several exceptions. Also permitted are existing residences and conditionally permitted are public utilities, hotels, hospitals, schools and clubs. The maximum permitted floor area ration is .15 and the maximum building height is six stories or 70 feet.

Research, Engineering and Office (REO-2, REO-4 and REO-5) Districts

The Research, Engineering and Office (REO) districts hosts much of the Township's office buildings. The districts are primarily located in the center of the Township; however there are smaller areas along Route 33 and Quakerbridge Road. The three districts permit the same uses; however they are distinct in the scale of development permitted. The permitted uses include, but are not limited to, office buildings, commercial printing establishments, medical and dental laboratories and research-office parks on tracts of land at least 25 acres in size. Also permitted are existing residences and conditionally permitted are public utilities, clubs and in the REO-5 district only hospitals, medical institutions and philanthropic institutions are conditionally permitted. In the REO-2 zone, the maximum building height is 35 feet and the maximum floor area ratio is .189. In the REO-4 and REO-5 zones, the maximum building height is 45 feet and the maximum floor area ratio is .25.

Research and Development (RD) District

The Research and Development (RD) district is the Township's largest nonresidential district. The majority of its land area is located in the vicinity of Route 130 and Kuser Road with smaller districts along East State Street and Main Street in Groveville. The RD district in the vicinity of Route 130 and Kuser Road has been one of the Township's major generators of economic development over the past several years with such developments as the Hamilton Marketplace (Route 130) and the Opus office development (Yardville Hamilton Square Road and Kuser Road). With the significant development potential that remains in this district, it is anticipated to continue to play a major role in economic development in the coming years.

The RD district permits all uses permitted in the REO districts, as well as others indicative of its more regional orientation. Additional uses include those such as, but not limited to, pharmaceutical product operations, assembly and treatment of previously prepared materials, distribution and warehousing, research and development parks on tracts of at least 25 acres and planned mixed use and commercial development parks. The planned mixed use and development parks are permitted on tracts of at least 100 acres.

As discussed in the Economic Development Element of this Master Plan, the Township has recently been named as the home for Genesis Biotechnology Group – a consortium of biotechnology companies. Genesis has been purchasing developed and undeveloped land in the RD district in an effort to provide space for its companies. Several of the buildings along Kuser Road and Black Forest Road are occupied by biotechnology companies associated with the Genesis Biotechnology Group and additional properties along Kuser Road and Cabot Drive have been identified as locations for additional development.

Planned Commercial Development Overlay

The Planned Commercial Development Overlay is unique to the RD district along the Route 130 corridor. The overlay applies to the majority of properties along the corridor and was used to facilitate development of some of the larger regional retail uses in this area such as the Hamilton Marketplace. It permits many of the commercial uses as in the Township's other commercial zones, as well as a variety of other retail uses such as bakeries, book stores, sporting good stores and dress shops.

The conception for the overlay was first set forth in the 1996 Master Plan Reexamination when a planning analysis was prepared for the Route 130/I-195 Study Area (hereinafter the "Route 130/I-195 Land Use Study") to investigate the potential for mixed use and retail development along the Route 130/I-195 corridor. The introduction to the study noted that the extent of vacant developable land and the exceptional local and regional highway access to the study area warranted a reexamination of land use in the corridor and acknowledged a strong demand for commercial (retail) development to serve regional needs. Traffic impacts were central to the consideration of permitting planned commercial development within the Route 130/I-195 corridor. This study and subsequent zoning that occurred as a result identified several locations for the overlay district. The intensity and extent of commercial development permitted at each location varies based on its characteristics. Since that time, much of the zoning has been realized thought construction. Recently, and as recommended in the 2008 Master Plan Reexamination report, the zoning was adjusted to provide additional flexibility to better facilitate development of regional retail uses.

The Route 130 corridor has also been the subject of planning studies in the past intended to promote aesthetically pleasing development. The 1998 *Vision Plan and Guidelines* developed for the Route 130 Corridor by Wallace, Roberts and Todd discussed the need and opportunity for a more spatially cohesive and attractive development of the commercial corridor. The Vision Plan recommended establishing a public and private sector partnership in order to channel growth along Route 130 into a high quality commercial, entertainment, employment and specialty residential "District" serving a regional population. Design guidelines for gateways, site entrances, nodes, and enhancement zones were provided in the plan, including recommendations for enhancement of landscape and streetscape elements, signage, and lighting.

Guiding principles for improving the appearance and function of the Route 130 corridor were also set forth in a May 2007 document, *"A Choice for the Future: Route 130, Mercer County, NJ",* that was based on visioning workshops organized by the Greater Mercer TMA and Mercer Regional Chamber of Commerce, funded through a grant from the New Jersey Office of Smart Growth. The guiding principles focused on regional mobility issues, landscape improvements, supporting commerce through better signage and

access, enhancing community identity, adapting to infrastructure limitations and market trends, and promoting a shared vision for the corridor. The vision statements, guidelines and principles from the 1998 and 2007 documents should be reviewed to serve as the basis for ordinance amendments to implement more consistent design standards along the Route 130 corridor as envisioned under the corridor studies.

A Master Plan Road to connect Route 130 to Cabot Drive is planned in the area of the planned commercial development located west of Klockner Road. The Land Development Ordinance states that the road is required for any development greater than 75,000 square feet. In light of current economic circumstances this limitation should be altered. The signalization and construction of the intersection of the Master Plan Road and Route 130 should still be required as part of any development that takes advantage of the overlay; however, the road connection to Cabot Drive should be required for any development greater than 150,000 square feet.

This flexibility will better facilitate improved access to properties west of Klockner Road by requiring the intersection as part of any development on the tract while recognizing the economy of scale necessary to justify the cost of constructing the road extension. As discussed in the Economic Development Element, this intersection is important for improving circulation and marketability of commercial properties along Route 130 from Route 156 to I-195. The improvement will provide southbound traffic access to development along the northbound side of Route 130, without having to travel on Route 156 through Yardville. Furthermore, it will provide a connection from this part of Route 130 to Yardville Hamilton Square Road and Klockner Road. Accordingly, traffic flow through Yardville will be alleviated, vehicle access to the northbound side of Route 130 will be improved and motorists will have an alternative to travelling on Route 130 to reach Yardville Hamilton Square Road and Klockner Road from this area of the Township. It should also be noted that this is consistent with Concept Approval from the NJ Department of Transportation for the Master Plan Road.

Industrial (I) and Manufacturing (MFG) districts

The Industrial and Manufacturing districts permit a full spectrum of industrially related uses, including warehouses and wholesale distribution centers, but excluding activities which synthesize chemical products for direct industrial sale. The MFG district permits a wider range of uses which include more intensive, heavy industrial uses. Both districts permit all those also permitted in the REO and RD districts, as well as uses such as, but not limited to, fabrication of metal, paper and wood products, wholesale trade distribution centers, pharmaceutical product manufacturing, service industries for the printing trades and industrial parks on tracts of land 25 acres or greater. The MFG district permits additional uses such as, but not limited to, concrete mixing plants, manufacture and repair of light and heavy equipment and coating, engraving and allied services. Conditional uses in both districts include public utilities, service stations, carwashes, motor freight terminals and single user warehouse clubs. The maximum permitted floor area ratio is .25 and the maximum building height is 35 feet.

The list of permitted and conditionally permitted uses and their respective definitions for the districts should be reviewed with the intention of realigning the uses into coherent districts, organized according to their impact on adjacent properties and the Township's infrastructure while providing expanded opportunities for employment and economic development. This will rectify inconsistencies and overlap among the various uses permitted in the districts and will allow for any necessary adjustments to account for the residential districts which are adjacent to many portions of the I and MFG districts.

Mixed-use Area II Train Station Overlay

The purpose of a mixed-use train station development is to provide for a variety of land use types that complement adjacent uses and service users of the nearby train station and residents of the township; to insure compatibility among land uses, to encourage the highest quality design and architecture; to encourage better movement and transportation of people and to prevent strip development. The overlay applies to the southeast quadrant of the Sloan Avenue – Interstate 295 interchange where the AMC movie theater has been developed. The Overlay district permits a variety of uses consistent with the Township's commercial districts.

Arts and Culture Overlay

The Arts and Culture overlay has been designated to promote investment through mixed use and commercial development that expands the presence of and/or otherwise enhances the arts and culture within the district. An overlay zoning district of the nonresidential districts (Industrial, Highway Commercial, Community Commercial and General Commercial) generally stretching from the Hamilton Train Station in the north to the Mill One site to the south in the Bromley neighborhood is intended to promote development and redevelopment of land uses which advance the arts and culture. The Arts and Culture Overlay District will also promote investment in the area through mixed use and commercial development that enhance and support arts and culture.

Arts and Cultural District sign

The character and existing conditions within the overlay district vary widely. However, access to regional transportation and proximity and connection to the heart of the district – the Grounds For Sculpture – are shared characteristics that support the district. Use of an overlay district, rather than a rezoning of the area will provide incentives for development and redevelopment that are consistent with arts and culture without removing the underlying zoning upon which the existing development is based. The overlay approach offers new development incentives to property owners which are in addition to current zoning.

The portion of the district north of East State Street hosts the district's most recent development, including the Hamilton Train Station. The Hamilton Train Station is one of the busiest stops on NJ Transit's Northeast Corridor line, which runs from Trenton to New York City. The train station not only serves as a regional transit hub which gives tourists access to the district, but it already promotes arts and culture through the many sculpture placements on the property. Other noteworthy land uses north of East State Street include the AMC movie theaters, which contribute to arts and culture, as well as office and residential development. While located in the Industrial zone district, the majority of recent development in this area is consistent with the Cyberdistrict Redevelopment Area Plan which encompasses much of the overlay district.

Much of the central and southern portions of the district, along the East State Street Extension, consist of Industrial and Manufacturing zone districts within the Cyberdistrict Redevelopment Area. This area has been dominated by industrial and manufacturing uses for years; however, vacancy rates and underutilization in the area have been rising

consistent with the decline of manufacturing in New Jersey and the country as a whole. For this reason, it is important to provide viable alternative land uses that will promote full utilization of the properties. Additionally, many art and culture uses, such as studio, gallery and performing arts space, are well suited to adaptively reuse existing industrial buildings.

Included to the south is that portion of the Bromley neighborhood which is within the General Commercial zoning district. This community along the border with the City of Trenton consists of a compact residential neighborhood and a variety of commercial and service uses, predominantly, along Route 33. Within the Bromley neighborhood is the Mill One redevelopment site at the intersection of North Johnson Avenue and Nottingham Way. Formerly the site of a luggage manufacturer, the redevelopment of the Mill One property is expected to include space devoted to arts and cultural uses and will otherwise fulfill the arts and culture district Goals and Objectives.

The Overlay District will also include areas within the Highway Commercial, General Commercial and Community Commercial districts which are located primarily along Nottingham Way but also at the intersection of Klockner Avenue and East State Street. These districts consist of small to moderate sized retail, restaurant and service uses. Also included in the Overlay District given its proximity to the area is the Hamilton Township municipal building and the Community Commercial corridor along Greenwood Avenue. This commercial corridor has a mixed character, with many viable businesses interspersed with underutilized properties such as the Suburban Plaza shopping center and the undeveloped property near the intersection of Nottingham Way and Klockner Avenue. The Suburban Plaza center has suffered from high turnover and vacancy rates for over a decade. The property to the east previously received a development approval for a retail center but construction has yet to begin.

The Grounds For Sculpture – the use which anchors the district and is the largest tourism draw – suffers from a lack of visibility and integration with the surrounding area. Recent actions by the sponsoring organizations at the Grounds for Sculpture have begun to enhance its presence, including the extension of its distinctive fencing around an expanded garden area at the corner of Nottingham Way and Sculptors Way. The Grounds For Sculpture has installed distinctive wayfinding sculptures along Interstate 295, the northern portion of Klockner Avenue, East State Street Extension and Sculptors Way. These placements not only provide visual cues to motorists that they are approaching the Grounds For Sculpture but create an arts and culture character in the area and make the streetscape more visually pleasing. However, apart from the sculptures themselves, there

is little way-finding signage to lead visitors to the site and minimal connections to shopping and dining facilities in the area. Consequently, there is an opportunity for the Township to capitalize on the presence of the Grounds For Sculpture and more fully leverage its regional appeal as a focal point for arts and culture to also enhance the entertainment, shopping, recreation and dining uses in the district.

A cohesive streetscape design for East State Street, Nottingham Way and Sculptors Way will help "brand" the District, will beautify the area and encourage tourists, as well as residents, to visit the Grounds For Sculpture and the surrounding District on foot and on bicycle. These improvements can be implemented by future developers and also by the public sector to the extent funding is available.

A streetscape design in this area could include public art, street trees, lighting, benches, paving, sidewalks, bike lanes and signage. East State Street (a County Road) and Sculptors Way have wide right-of-ways that could accommodate two vehicular travel lanes, bicycle lanes, on-street parking (likely East State Street only) and sidewalks. The purpose of these improvements is to not only beautify the Arts and Culture District, but to encourage people to walk or bike through the area to see the sculptures that have been installed and to create a more pleasant approach to the Grounds For Sculpture. Unique and/or locally designed streetscape furnishings would also offer an opportunity for the integration of art. Streetscape improvements should give special prominence to the East State Street intersections with Klockner Avenue and Sculptors Way.

Redevelopment Areas

The Township has two redevelopment areas which have been designated pursuant to the Local Redevelopment and Housing Law (*N.J.S.A.* 40:55D-12)

Cyberdistrict Redevelopment Area

The Cyberdistrict Redevelopment Area is located generally in the northwestern part of the Township from the Hamilton Train Station, along one of the Township's main thoroughfares - Sloan Avenue and extends west along the Township's Industrial (I) and Manufacturing (MFG) districts and a portion of the Highway Commercial (HC) district along Route 33. The Redevelopment Area is confined to lands zoned for nonresidential use. Designated in 2003, it permits a variety of uses depending on location within the district. The area north of the train station permits a variety of residential uses with a maximum density of 16 dwelling units an acre; permitted uses for the lands surrounding the train station include a variety of commercial uses and residential uses. The Redevelopment Plan is intended to leverage the power of the rail line to create opportunities for mixed use development that takes advantage of its location near the station. Additionally, a Redevelopment Plan was approved in 2009 for the Mill One project at the intersection of Johnson Avenue and Nottingham Way. This Redevelopment Plan calls for adaptive reuse of the former industrial building for residential, office and art and cultural uses. Other portions of the Redevelopment Area are not subject to a specific Redevelopment Plan and are governed by the conventional Land Use Code.

Town Center Redevelopment Area

In the mid 1970's, the Township acquired approximately 150 acres of land in the center of the Township to set aside for a Town Center complex. The first phase of the Town Center was realized shortly thereafter with the construction of the Township's police station/courts building and the Hamilton Township Public Library. In the mid 1980s, the Hamilton Township Redevelopment Agency was established and given the dual tasks of preparing a comprehensive master plan for the site and seeking public/private partnerships to imple-

ment the plan. In 1986, a study was completed for area to the north and west of the police station and library, including the former landfill site (now occupied by the Township's composting center and Somerton Springs Family Golf facility) and the vacant woodland area extending north to Cypress Lane (the Morton Tract). Based on the findings of the Blight Study, the area was deemed an Area in Need of Redevelopment and a Redevelopment Plan was adopted in January 1989 that proposed a mixture of retail and office uses for the area. In 1995, the Redevelopment Plan was amended to focus on governmental, public recreation, retail, and residential uses. Building on the 1995 Redevelopment Plan, a Hamilton Town Center Vision Plan was completed in 1999 for Parcels 1 and 2 (the southeast portion of the Morton Tract) which recommended development of a residential, entertainment, and commercial complex in a village-like Town Center setting. In light of the long history of planning for the development of this area the Township should pursue the site investigations and consider preparing an amended Redevelopment Plan to guide the disposition and development of the tract.

Proposed Land Use Changes

During the course of the master plan process the Planning Board entertained suggestions from property owners and prospective developers for changes in the land use category of specific parcels. In addition, the Township's professional staff and consultants made recommendations for use reclassifications as well. Generally speaking, these recommended changes fall into two categories – zoning consistency and revitalization. Those proposals for creating zoning consistency will not impact the type, scale or character of development in the area. Instead, these changes are intended to create consistency between the land uses on the ground and the land uses depicted in the zoning map. Those changes proposed to enhance revitalization are intended to promote the Township's economic development efforts. The land use changes will create incentives for revitalization in a manner which is consistent with the Goals and Objectives of the Master Plan.

SITE A

SITE B

Site A

The Industrial (1) zoning in the area generally, to the west of Quakerbridge Road should be amended to create consistency with the existing uses. As such, Van Horn Park in the south should be rezoned to the Conservation (C) zone district, the predominantly office uses surrounding Quakerbridge Plaza Drive should be rezoned to the Research Engineering Office (REO-4) district, the retail, restaurant uses and office uses in the northeast should be rezoned to the Highway Commercial (HC) zone district and the wooded property at the northwest corner of the Manufacturing (MFG) zone district be changed to the Conservation (C) zone district.

Site B

The Industrial (I) zone district at the southwest quadrant of the Interstate 295 – Sloan Avenue interchange, which contains the Congoleum property as well as undeveloped lands, should be revised to either a new commercial mixed use district or the Research Engineering Office (REO) district. Although this will continue the current split-zoning condition for a handful of lots, the stream, rather than the lot lines, is the appropriate boundary to the RD district to the south. The Arts and Culture Overlay should continue

to apply to the site. This revision will create a wider range of uses which are well positioned to take advantage of the tract's exceptional regional highway accessibility and adjacency to the train station._

Site C

The Industrial (I) zone district applying to the AMC Theater at the southeast quadrant of the Interstate 295 – Sloan Road should be revised to the Highway Commercial (HC) district which also applies to lands to the east. The Township-owned open space and recreation fields to the south should be placed in the Conservation (C) zone district. These revisions will create zoning consistent with the existing uses.

Site D

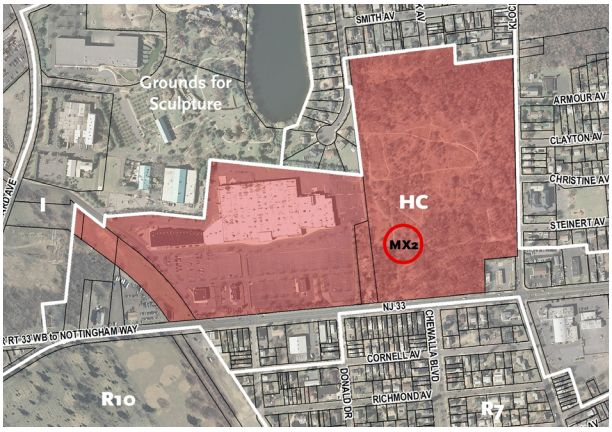
The Highway Commercial (HC) zoning for the Suburban Plaza property, and the adjacent undeveloped lot on Route 33 (Nottingham Way) which extends to Klockner Avenue should be revised to permit residential/commercial mixed- use development. This recommendation is consistent with the comments received during the Route 33 Symposium as well as with the 2009 *Arts and Culture Land Use Plan Amendment.* Rezoning and/or the redevelopment process should be used to transform Nottingham Way into a second arts gateway/corridor between the Grounds For Sculpture and Interstate 295. Currently, there is little evidence of the Ground for Sculpture along this major commercial corridor. Rezoning and/or redevelopment of this area chould include public art placements and streetscape furnishings to add visual interest and to indicate to travelers along Nottingham Way that they are within the Arts and Culture Overlay District and that they are approaching a major arts and culture facility – the Grounds For Sculpture._

The Mixed-Use 2 standards should reflect new urbanist design principles with residences above commercial space, parking at the rear or side of multi-story buildings and pedestrian access throughout the site and along Nottingham Way. Mixed use buildings should be permitted at two and three strories with residential densities of up to six units per acre. Development plans must be sensitive to the existing adjacent residential neighborhoods located to the north, east and south through compatible architecture, lighting and planting, buffers and setback requirements that will minimize the impact of the development/redevelopment on these areas.

Site E

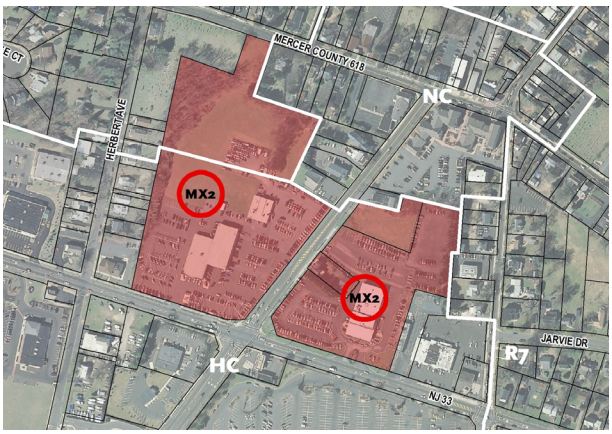
The former Hamilton Chrysler and Paterson Chevrolet, as well as a property to the north of the Hamilton Chrysler property, should be rezoned to permit residential com-

SITE C



SITE D

SITE D



SITE E

SITE E

Middle and bottom: *mixed use examples in Princeton, NJ*

mercial mixed-use. This rezoning will encourage redevelopment at this prominent intersection along the Route 33 corridor in a manner which is consistent with the comments received during the Route 33 Symposium.

The Mixed-Use 2 standards should reflect new urbanist design principles with residences above commercial space, parking at the rear or side of multi-story buildings and pedestrian access throughout the site and along Nottingham Way. Mixed use buildings should be permitted at two and three strories with residential densities of up to six units per acre. Development plans must be sensitive to the existing adjacent residential neighborhoods located to the north, east and south through compatible architecture, lighting and planting, buffers and setback requirements that will minimize the impact of the development/redevelopment on these areas.

Site F

The zoning for this preserved open space property, which is part of Veterans Park, should be changed to the Conservation (C) zone district. This change will create consistency between the existing land use and the zone designation._

SITE F

Site G

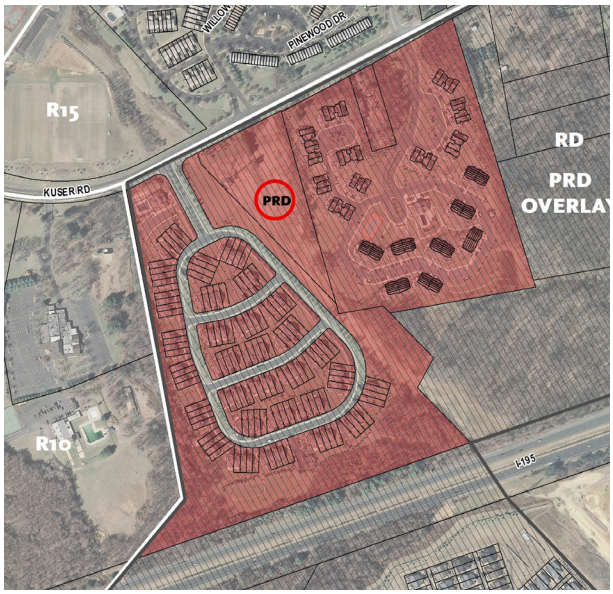
The zoning for this preserved open space property, which is part of Veterans Park, should be changed to the Conservation (C) zone district. This change will create consistency between the existing land use and the zone designation._

SITE G

Site H

The Planned Retirement Development (PRD) Overlay district should be removed from this property. This change will not disturb the underlying Research Development (RD) zone district and will create consistency between the existing office uses and the zone designation._

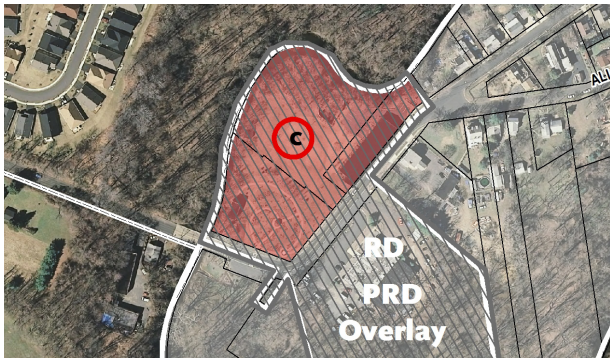
SITE H



SITE I

Site I

The Planned Retirement Development (PRD) Overlay district zoning and Research Development (RD) zone district on this property should be replaced with the Planned Retirement Development (PRD) zone district. This change will create consistency between the existing age-restricted communities and the zone designation._



SITE J

Site J

The zoning for this preserved open space property, which is part of Anchor Thread Park, should be changed to the Conservation (C) zone district. This change will create consistency between the existing land use and the zone designation._

Site K

The zoning standards in this area should be changed to include residential and office above ground floor commercial uses. This zoning amendment will not only eliminate several nonconforming uses, but will create an incentive for redevelopment and will encourage walkability in the area. Additionally, this change is consistent with the input received at the Route 33 Symposium. The Mixed-Use 1 standards should reflect new urbanist design principles with buildings located at teh front of the lot at the sidewalk, parking at the rear or side of multi-story buildings and pedestrian access throughout the site and along Route 33.

SITE K

Site L

The zoning in this area should be changed to better reflect the existing land uses. The residential use along Liberty Street should be changed to the Residential (R-10) district to create consistency with the existing residence on the lot. The remaining Neighborhood Commercial (NC) district as well as the surrounding commercial uses should be amended to the Community Commercial (CC) district. This change will eliminate several nonconforming commercial uses in the Residential 7 (R-7) and Residential 10 (R-10) zones and Neighborhood Commercial (NC) district.

SITE L

Site M

The Briarwood Shopping Center as well as the undeveloped lot to the east should be changed to the Community Commercial (CC) zone district. This will not only permit a wider range of modest-scaled uses on the undeveloped corner property but will eliminate the nonconforming status of the existing restaurant in the shopping center.

SITE M

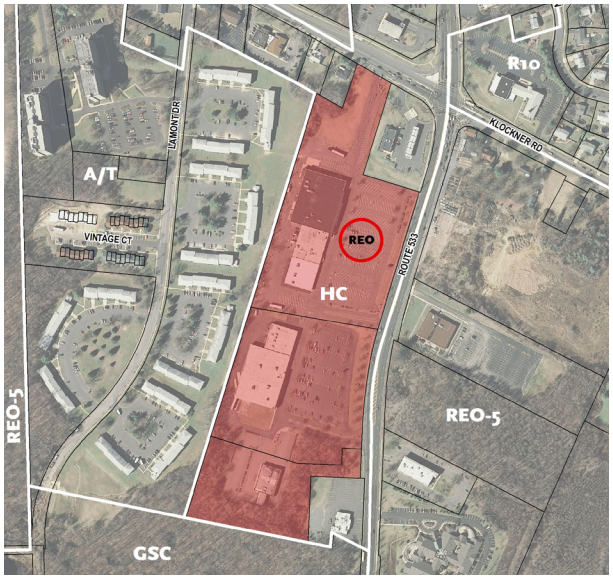
Site N

A Mixed-Use 3 overlay district permitting residential, convenience service and neighborhood retail, office and research/engineering uses is recommended for the 50 acre tract at the southeast corner of Klockner and Kuser Road. This rezoning would facilitate the development of a range of new housing types for households with a variety of incomes as well as compatible retail and service uses, in proximity to the Genesis Biotechnology properties. Genesis has indicated an interest in facilitating development of a mixed-use corporate "village" on this site.

The Mixed-Use 3 standards should reflect new urbanist design principles with parking at the rear or side of multi-story mixed-use buildings and pedestrian access throughout the site. The maximum building height should be three strories. Residential development on the site should be limited to not more than 200 townhouse and apartment/condominium units. Mixed use buildings with residential units above commercial space should be located along Kuser Road.

SITE N

Mixed use example in Plainsboro, NJ



SITE O

SITE P

Site O

The retail buildings in this portion of the HC district (formerly the Whitehorse Plaza) have been vacant for a number of years since before the national economic recession. The optimal use for both sides of Whitehorse-Mercerville Road in this town center corridor is with office/research/engineering uses which complement the nearby medical and pharmaceutical uses (the Robert Wood Johnson Hospital, Capital Health facilities, companies under the Genesis umbrella and related bio-medical support uses) and take advantage of the area's regional highway access. Consequently, the site should be rezoned for Research Engineering, and office uses (REO).

Site P

The Planned Commercial Development (PCD) overlay should be extended to this site. Extension of the overlay to this area will expand economic development opportunities along the Route 130 south corridor. Additionally, it will provide the opportunity for retail development which is complementary to that which is permitted to the south, pursuant to the existing PCD overlay, and to the east across Route 130.

Implementation Plan

The following action items are among those recommended for implementation of the Land Use Plan Element of the Master Plan.

1. Implement the recommended Proposed Land Use Changes in this Element and achieve consistency between the zoning map and existing land uses, where such uses are appropriate.

2. Consider revisions to the requirements of the Planned Commercial Development overlay district of the Research Development (RD) district that would better facilitate the provision of a signalized intersection at Route 130 and Cabot Drive (extended) in the near term as well as the eventual construction of the Master Plan road connection to Cabot Drive.

3. Utilize architectural and design standards to promote attractive neighborhoods and commercial and industrial areas.

4. Encourage preservation of the Township's rural and agricultural heritage through a combination of preservation of land through purchase of development rights and other mechanisms encourage cluster/open space land use patterns, preservation and landscape design guidelines in the Rural Resource Conservation district.

5. Preserve the Township's historic character through preservation of historic properties and buildings and appropriate architectural and design standards, where warranted. Consider adoption of a Historic Preservation Plan Element of the Master Plan.

6. Consider billboard controls that would preserve the attractiveness of the Township.

7. Preserve neighborhood quality by promoting appropriately scaled and designed infill development and by limiting commercial intrusions into residential neighborhoods.

8. Create zoning incentives to motivate desirable redevelopment and revitalization.

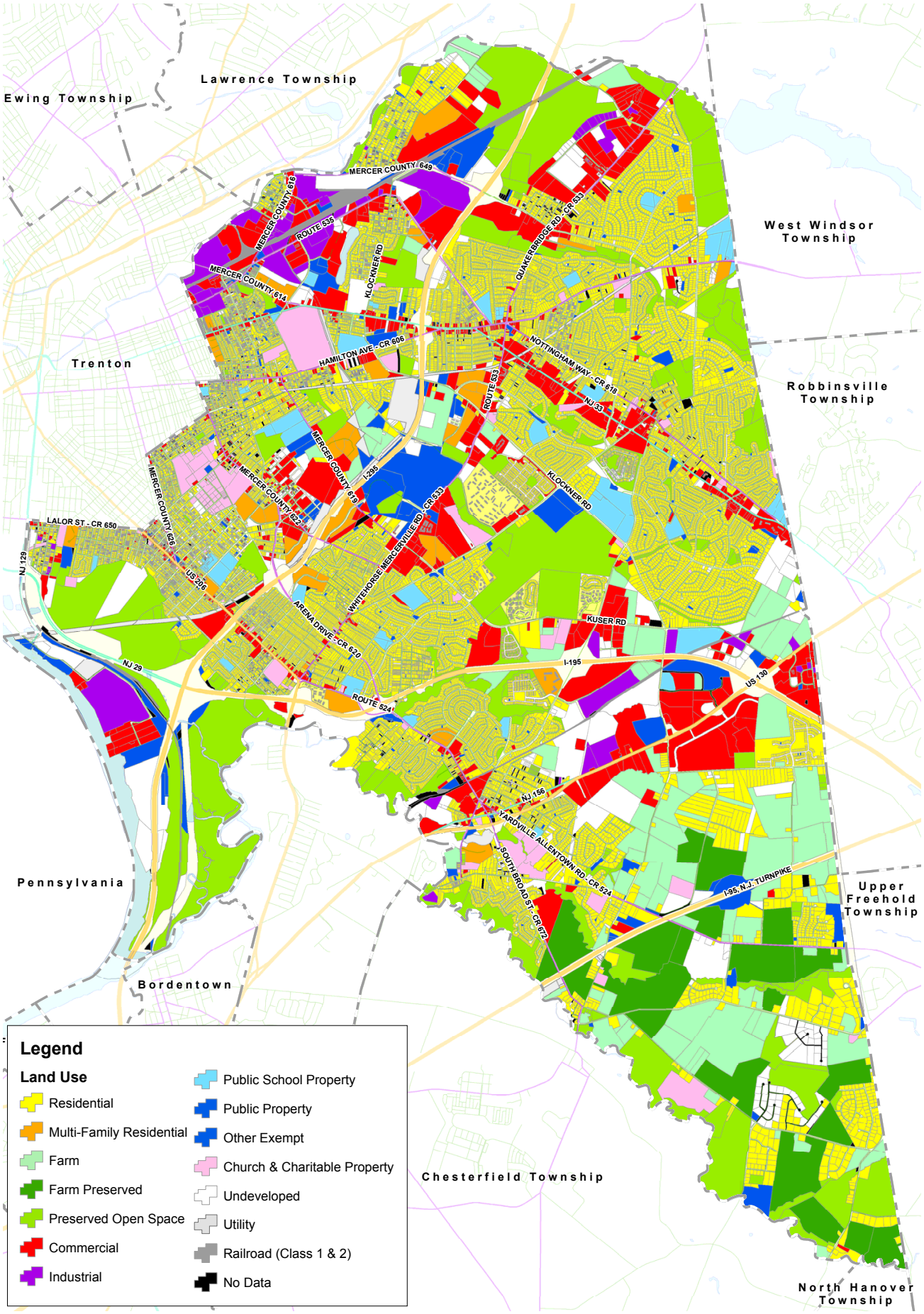
9. Promote connectivity throughout the Township, particularly bicycle and pedestrian connectivity.

10. Consider revisions to the Land Development Code to clarify and rationalize design, bulk and use standards applicable to all zoning districts.

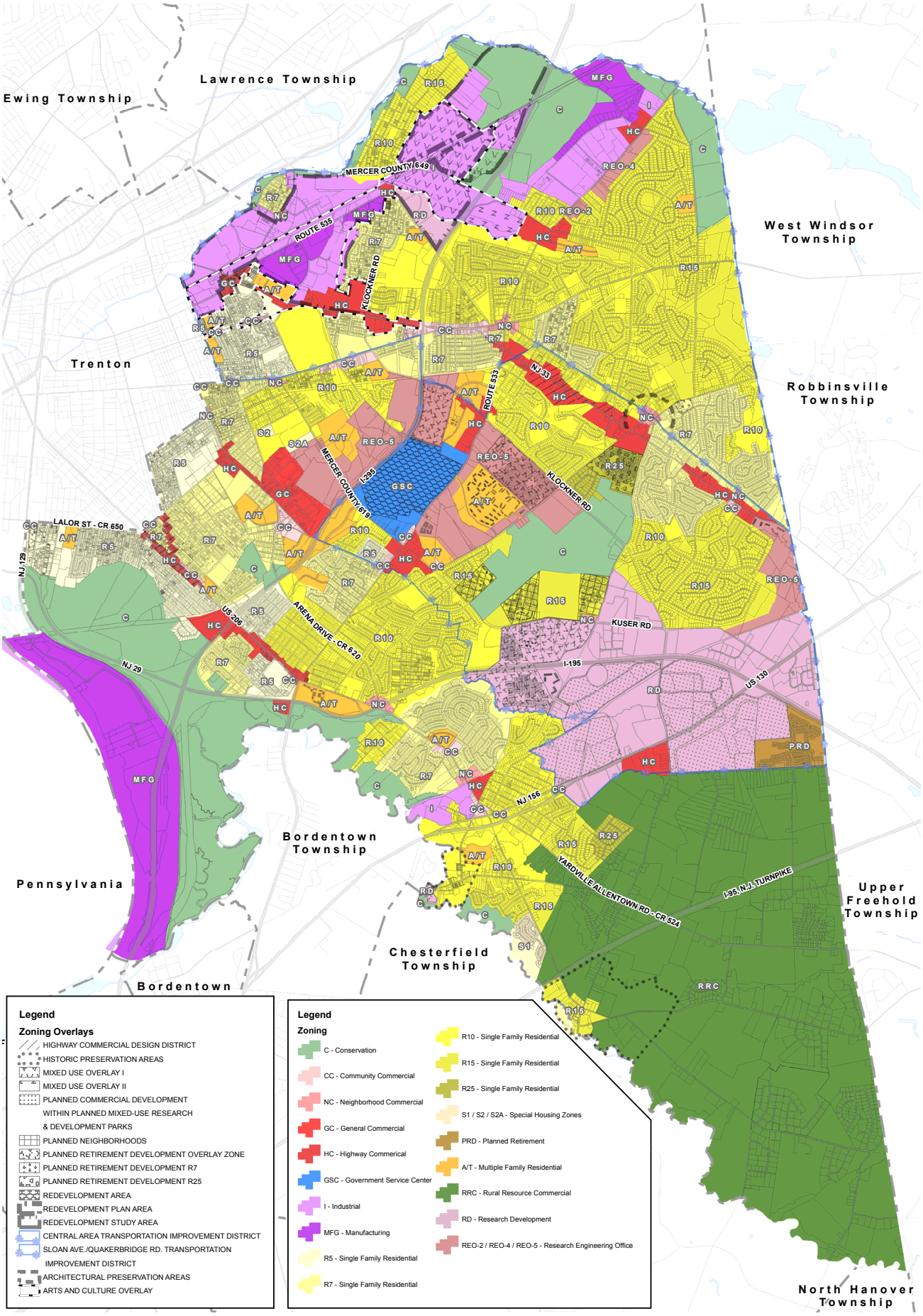
11. Evaluate the appropriateness of the General Commercial (GC) district zoning as opposed to another commercial district for the commercial node at Nottingham Way and East State Street.

12. Consider application of the Highway Commercial Design District I standards to the entirety of the Highway Commercial (HC) district.

13. Evaluate the list of permitted and conditionally permitted uses in the Industrial (I) and Manufacturing (MFG) districts and their respective definitions to provide expanded opportunities for employment and economic development in a manner that is sensitive to surrounding neighborhoods.



Existing Land Use Map



Existing Zoning Map

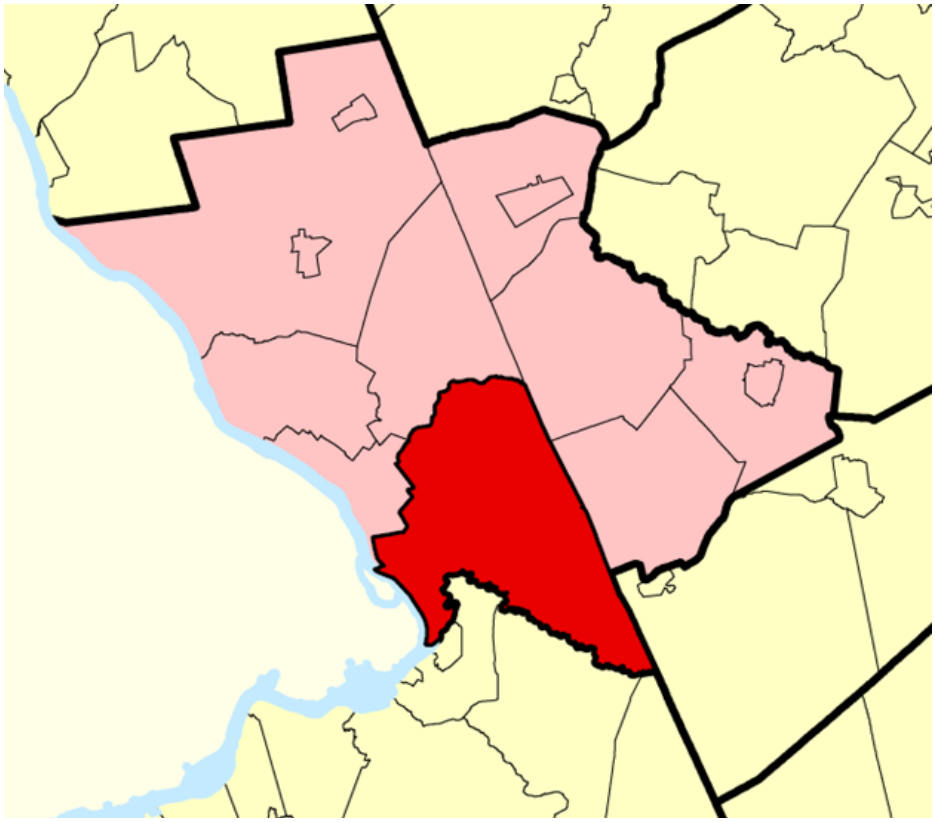
SECTION 8

Statement of Planning Consistency

HAMILTON TOWNSHIP MASTER PLAN

SECTION 8

Statement of Planning Consistency



This component of the Master Plan provides an analysis of the consistency between Hamilton Township's planning policies and those of surrounding municipalities, the County and State. In general, the Township's planning policies are compatible with those of the surrounding municipalities, County and State.

Land Use Policy in Surrounding Municipalities

Lawrence Township

Lawrence's boundary with Hamilton consists of the Limited Industrial I, Limited Industrial II and the Open Space zone districts. The Limited Industrial districts permit a variety of light industrial and office uses. These uses are consistent with Industrial (I), Manufacturing (MFG) and Conservation (C) districts in Hamilton Township which are located along the Township's boundary with Lawrence.

West Windsor Township

West Windsor's boundary with Hamilton Township largely consists of residential zoning districts – the R-1/C and RRC districts – which require lot sizes of 1 2/3 acres and 3 1/3 acres, respectively. A portion of the boundary is in the E district with permits educational uses; this area hosts Mercer County Community College. Hamilton Township's zoning in this area, the Conservation (C) district and the Residential 15 (R15) district are compatible with the land use plan for the adjacent are in West Windsor.

Robbinsville Township

Robbinsville's boundary with Hamilton Township has a variety of zoning districts – Residential R 1.5 district, Residential R 1.5 PVD Option district, Town Center (TC) district, Mobile Home (MH) district, Office Warehousing Light Manufacturing (OW) district and the Rural Residential (RR) district. Although these districts are varied, they are not incompatible with Hamilton's Land use Plan. The residential zones, including their densities, are compatible with the Township's Residential 15 zoning along the Robbinsville boundary. The Town Center designation, which is located on either side of Route 33, is consistent with the Township's own policies of enhancing this commercial district in this area – the Highway Commercial (HC) district. Additionally, the OW district is consistent with the Township's adjacent Research Development (RD) district.

Upper Freehold Township

Upper Freehold Township's boundary with Hamilton consists of the Community Commercial (CC) district and the Agricultural (AR) district. The entirety of the boundary in Hamilton is designated Rural Resource Conservation (RRC). The districts in Upper Freehold, including the CC commercial district, are not incompatible with the Hamilton's low density zoning in this area. The CC district has been developed with small scale commercial businesses that provide goods and services to the surrounding residential areas. The zoning at the northern portion of Upper Freehold is recommended for the Agricultural Residential (AR) Optional Educational / Commercial / Planned Residential Development overlay; this change would eliminate the Commerce Park overlay and was discussed in the 2007 Land Use Plan Element. This change would permit a variety of uses such as, but not limited to, educational institutions, planned residential developments and assisted living. Such uses are not incompatible with adjacent low density development in Hamilton.

North Hanover Township

North Hanover's boundary with Hamilton Township consists of the Residential-Agricultural (RA) district which permits such uses as single family homes, schools and agriculture. These uses are consistent with Hamilton's adjacent Rural Resource Conservation (RRC) District.

Chesterfield Township

With the exception of the area surrounding the Turnpike, which is in the Office Park (OP) district, Chesterfield's boundary with Hamilton consists of the Agriculture (AG) district. This zone, which permits such uses as low density housing and agriculture, is consistent with the adjacent zoning in Hamilton. This area of Hamilton consists of the Rural Resource Conservation (RRC), Residential 15 (R15), Special Housing 1 (S1) and Conservation (C) district – all of which permit residential development at a variety of densities.

Bordentown Township

Bordentown's boundary with Hamilton is designated as either the Conservation (C) district or the Public (P) district, with a small area in the Residential 30 (R-30) district. These residential and public space designations are consistent with the Township's zon-

ing of predominantly the Conservation (C) district. A small portion of Hamilton along the boundary with Bordentown is within the Residential 10 (R10) district and the Industrial (I) district; however, the area within the I district closest to Bordentown is environmentally constrained and not developable.

Trenton City

The City has three zone districts abutting Hamilton Township including the Business (BB) district, Residence (RB) district and the Industrial (IA) district. The IA district abuts the Township's Industrial (I) district and thus is consistent. The City's BB districts and its permitted uses correspond to the Township's designation of the Community Commercial (CC) and the Highway Commercial (HC) districts and the City's RB district corresponds to the Township's Residential 5 (R5) district. Furthermore, the development intensities permitted in City's and the Township's zoning districts are compatible.

Mercer County Master Plan

The County adopted a Master Plan Update in 2010. This document is an update of the 2003 Master Plan. The Hamilton Master Plan is substantially consistent with the County's Master Plan update. The Plan proposes a regional planning framework that relies on three components – economy, transportation and environment.

The economic component addresses a balance between jobs and housing for economic growth, housing choice and social equity. The transportation component addresses multi-modal transportation corridors, transportation oriented development and improved access and mobility which includes a reduction in growth of traffic congestion and increase in pedestrian and bicycle opportunities. The environmental component addresses natural resource preservation especially where mitigation plans are appropriate for jobs and supporting sustainable employment centers and recreation infrastructure in urban and suburban areas which includes green infrastructure to control flooding and improve water quality and linking existing preserved spaces for habitat and trail networks. The Policies and Strategies related to each of these components are consistent with the policies contained in Hamilton Township's Master Plan.

Mercer County District Solid Waste Management Plan

Mercer County adopted a Solid Waste Management Plan in accordance with state law. The Solid Waste Management Act established a comprehensive system for the regulation of solid waste collection, recycling and disposal. The Act authorizes counties to develop and implement comprehensive solid waste management plans which meet the needs of municipalities within the County.

The Mercer County Solid Waste Management Plan includes a recycling element adopted to implement the requirement so the State Mandatory Source Separation and Recycling Act. The County has entered into intra-district agreements with municipalities in Mercer County, including Hamilton.

The Hamilton Township Master Plan is consistent with the District Solid Waste Management Plan and complies with all applicable state laws.

New Jersey State Development and Redevelopment Plan

The *New Jersey State Development and Redevelopment Plan* (hereinafter the "State Plan") was first adopted in 1992 and updated in March 2001. It is a comprehensive statewide guide to municipal, county and regional planning. The purpose of the State Plan is to:

> *"Coordinate planning activities and establish Statewide planning objectives in the following areas: land use, housing, economic development, transportation, natural resource conservation, agriculture and farmland retention, recreation, urban and suburban redevelopment, historic preservation, public facilities and services, and intergovernmental coordination (N.J.S.A. 52:18A-200(f))."*

The State Plan contains vision statements, goals, strategies and policies. It also contains the State Plan Policy Map which provides the geographic component of the State Plan, identifying and locating Planning Areas, Centers, and other geographical features that are important to the State Plan's guidance function. The State Plan has nine goals:

1. Revitalize the State's Cities and Town
2. Conserve the State's Natural Resources and Systems
3. Promote Beneficial Economic Growth
4. Protect the Environment, Prevent and Clean up Pollution
5. Provide Adequate Public Facilities and Services at Reasonable Cost
6. Provide Adequate Housing at Reasonable Cost
7. Preserve and Enhance Areas with Historic, Cultural, Scenic Open Space, and Recreational Value
8. Ensure Sound, Coordinated and Integrated Statewide Planning
9. Increase Energy Efficiencies and Reduce Greenhouse Gas Emissions

In April 2004, the State Planning Commission released a Preliminary Plan proposing amendments to the 2001 State Plan, triggering a third round of the State Plan Cross-Acceptance process. Under the 2004 Preliminary State Plan, the statewide goals, strategies and policies as outlined in the 2001 State Plan remain fundamentally the same. However, the 2004 Plan proposed to reorganize the Plan to consolidate the goal statements and background sections for the existing eight goals under one statement and background section and to relocate policies and strategies under a specific goal. The State Plan continues to be a draft document; however, the 2010 Draft State Plan has retained the features of the 2004 Plan. The 2010 State Plan Policy Map also remains fundamentally the same under the 2004 Preliminary Plan, although greater detail is provided with regard to the location of parkland and open space and sewer service areas.

The 2010 Draft State Plan designates Hamilton Township in several planning areas, depending on the characteristics of those lands.

- **Parks and Natural Areas.** This designation is reserved for lands which are protected as parkland or open space.

- **Metropolitan Planning Area (Planning Area 1).** This designation applies to the majority of lands in the Township's sewer service area, with the largest exceptions being those lands designated as Parks and Natural Areas and lands generally along the Route 130 and Kuser Road corridors which are designated as the Suburban Planning Area. The State Plan's intent for this planning area is as follows:
  - Provide for much of the State's future development and redevelopment
  - Revitalize Cities and Towns
  - Take advantage of increased densities and compact building design
  - Encourage distinctive, attractive neighborhoods with a strong sense of place
  - Provide for mixed-use concentrations of residential and commercial activity
  - Create a wide range of residential housing opportunities and choices with income mix
  - Provide for a variety of multi-modal transportation alternatives
  - Prioritize clean-up and redevelopment of brownfields and greyfields sites
  - Create cultural centers of state-wide significance
  - Re-design any existing areas of low-density sprawl
- **Suburban Planning Area (Planning Area 2).** This designation applies to lands generally along the Route 130 and Kuser Road corridors which are designated as the Suburban Planning Area. The State Plan's intent for this planning area is as follows:
  - Provide for much of the State's future development
  - Promote growth in center-based developments by increasing densities and employing attractive community design to encourage more compact forms of development
  - Protect the character of existing stable communities
  - Revitalize existing cities and towns
  - Promote increased coordination and integration of transportation planning and land-use decision-making
  - Encourage multi-modal transportation alternatives to the automobile
  - Protect natural resources
  - Re-design and retrofit existing areas of sprawl
  - Reverse the current trend toward additional sprawl
- **Rural Planning Area (Planning Area 4).** This designation applies to the majority of lands outside of the sewer service area and nearly the entirety of the Rural Resource Conservation (RRC) district. The State Plan's intent for this planning area is as follows:
  - Maintain the environs as large contiguous tracts of farmland and open space
  - Promote a viable agricultural industry and compatible off-the-farm economic opportunities for farmers
  - Revitalize existing rural centers
  - Accommodate future growth and development in existing centers and center-based new development

- Protect the character of existing, stable communities
- Confine programmed sewers and public water services to centers
- Impose impervious cover restrictions and require restoration, maintenance and enhancement of the working landscape

- **Environmentally Sensitive Planning Area (Planning Area 5).** This designation applies to only a small amount of lands at the Township's northern boundary which are environmentally sensitive and associated with the Assunpink Creek. Additionally, the designation applies to a small area of environmentally sensitive lands associated with Gropps Lake, Edges Brook and Back Creek. The State Plan's intent for this planning area is as follows:
  - Protect environmental resources through the protection of large contiguous tracts of open space
  - Accommodate growth in existing cities and towns and new Center-based developments
  - Revitalize existing cities and towns
  - Protect the character of existing stable communities
  - Confine water supply and sewer systems to existing cities and towns and new Center based developments
  - Impose impervious cover restrictions and require restoration, maintenance and enhancement of the natural landscape

In addition to the Planning Areas, the State Plan also identifies Critical Environmental Sites (CES) as a primary means of identifying, protecting and managing areas of valuable natural resources that may be found in the Township in areas other than the Environmentally Sensitive Planning Area. For these identified and designated areas, the State Plan applies the intent and relevant provisions of the Environmentally Sensitive Planning Areas. The CES areas are scattered throughout the environmentally sensitive lands in the Township's Metropolitan and Suburban Planning Areas.

The State Plan also identifies lands which have been preserved as farmland by the State Agriculture Development Committee. Much of the Township's preserved farmland in the RRC district is identified as such.

The Township's planning policies are consistent with the designations of the State Plan. The majority of lands designated as Parks and Natural Areas are within the Conservation (C) district and are owned by the Township, County or State. Those lands designated as the Metropolitan Planning Area are largely developed and, where appropriate, have been targeted for redevelopment and revitalization. Consistent with State Plan policies, lands in the Suburban Planning Area represent those lands which still contain significant development potential – generally, those lands along the Route 130 and Kuser Road corridors. The Rural Planning Area policies are consistent with those of the RRC district, which is the zone district applying to the majority of this Planning Area. Lastly, the Environmentally Sensitive Planning Area corresponds to the Township's C zone district or are otherwise protected by such measures as the Township's Stream Corridor Protection ordinance.