



PLANNING BOARD MEETING - OCTOBER 8, 2025

AGENDA

Wednesday, October 08, 2025 at 7:30 PM

Online via Zoom

Members of the public who wish to review hard copies of any documents which are available for online inspection in the packet, should contact the Land Use Administrator, Robin Tillou via e-mail at planning@penningtonboro.org or telephone at (609) 737-0276 x3.

Zoom Link: <https://us02web.zoom.us/j/83805660624?pwd=vmGFsMt9frVhK16sqgzI6u7bfw2zKg.1>

OPENING STATEMENT: Adequate Notice of this meeting has been given to the Hopewell Valley News and Trenton Times and was posted on the bulletin board at Borough Hall at 30 North Main Street and on the Borough website according to the regulations of the Open Public Meetings Act.

ROLL CALL: () Blackwell () Caminiti () Davy () Jackson () Kassler-Taub () O'Neill () Stern () Tracy () Rex () Upson () Reilly

PUBLIC COMMENT

CORRESPONDENCE

[Letter](#) from Protect our Corner of Pennington Community Group

APPLICATION

25-003 The Pennington School - Demo and Renovate Stairs at Gymnasium - Application
Withdrawn

MASTER PLAN COMMITTEE UPDATE

* [Relation to Other Plans Element](#)

* [Revised](#) Mobility Plan Element

* [Revised](#) Utility Services Plan Element

* [Revised](#) Community Services and Facilities Plan Element

* [Revised](#) Open Space and Recreation Plan

* [Revised](#) Conservation of Natural Resources Plan Element

* [Revised](#) Green Buildings and Environmental Sustainability Plan Element

OLD BUSINESS

Fair Share Housing Center Response to Housing Element and Fair Share Plan

MINUTES FOR APPROVAL

*August 13, 2025 Minutes

*Indicates Action May Be Taken

Adjournment_____

To: Mayor James Davy: jdavy@penningtonboro.org
Council President Nadine Stern: nstern@penningtonboro.org,
Pennington Planning Board: planning@penningtonboro.org
Borough Clerk Betty Sterling: bsterling@penningtonboro.org

Date: October 1, 2025

Re: Community Response Regarding Improvident Inclusion of Senior Center
Site in Housing Plan – Block 701, Lots 5–8

Dear Members of the Pennington Borough Council and Planning Board,

On behalf of the *Protect Our Corner of Pennington Community Group* and the residents of Reading Street, West Welling Avenue, Hale Street, and surrounding areas, we are submitting this formal community response regarding the proposed redevelopment of the Senior Center site (Block 701, Lots 5–8) as part of Pennington Borough's Fourth Round Housing Element & Fair Share Plan.

This letter has been **delivered both in person and digitally** ahead of the **Monday, October 6, 2025 Borough Council meeting**, and we respectfully request that it be **entered into the public record** and considered as part of all future deliberations related to the Master Plan and housing strategy.

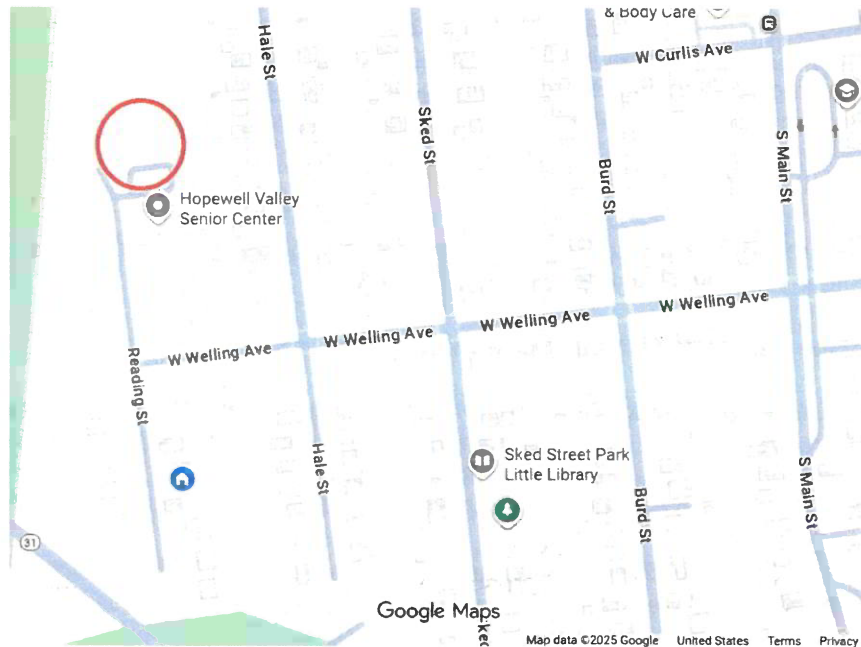
We believe this site was **improvidently placed** in the plan for affordable housing due to a combination of **logistical, infrastructural, educational, and public safety limitations** that make it unsuitable for high-density residential development.

Key Reasons This Site Is Not in Public Interest

- **Traffic Volume Impact:**

The proposed possible 31-unit development would likely introduce **60+ vehicles** (assuming 2 per unit) into a neighborhood with already limited road capacity. Reading Street is a narrow, quiet, residential road not designed to absorb this level of daily traffic.

- The increase in vehicle trips would lead to **chronic congestion**, especially during school drop-off/pick-up hours and commuter peaks.
- The narrow width of West Welling, Hale, and Reading Streets **currently support only single direction traffic** anywhere cars are parked,. Residents routinely pull over to allow oncoming cars to pass.
- There are **no alternative routes** to diffuse traffic, meaning all vehicles would funnel through a single corridor.
- Pennington Borough Public Works vehicles, delivery trucks, commercial vehicles, construction vehicles, etc., all currently have significant trouble navigating the narrow streets.
- This volume would also increase wear and tear on local roads, requiring additional maintenance and municipal resources.



- **Safety Risks for Residents and Emergency Services:**
The single point of access via Reading Street presents serious **public safety concerns**.
 - **Emergency vehicles** (fire, ambulance, police) may face delays due to congestion and limited turning radius.
 - The lack of a second access road is **not just inconvenient—it's dangerous**, especially in scenarios requiring evacuation or rapid response.
 - Increased traffic heightens risks for **pedestrians, cyclists, and children**, particularly in a neighborhood with limited sidewalks or traffic calming infrastructure.
- **Prohibitive Constraints on Creating a Second Road:**
The surrounding geography, including existing homes, wooded areas, and the adjacent train line—makes it **physically and financially prohibitive** to construct a second access road. This leaves the site permanently constrained to a single point of entry and exit.
- **Lack of Public Transportation Access:**
The site is **not walkable to NJ Transit bus stops or train stations**, making it car-dependent and unsuitable for residents who rely on public transit, especially those in affordable housing.
- **Impact on Local School System:**
Multiple attendees raised concerns about the **influx of new students** into the school district, which currently **does not provide busing** for many in-borough students.
 - The district is already strained, providing only **paid busing** to this neighborhood for grades 7-12, which currently costs families **up to \$1,000 per student or household**.
 - This would disproportionately affect families and could lead to **increased taxes** to cover transportation, staffing, and infrastructure needs.

- **Environmental & Community Impact:**
The site includes wooded areas and green space that contribute to the ecological health and character of our neighborhood. Redevelopment would permanently alter this landscape.
- **Stormwater Management:**
The mandates regarding stormwater management would be difficult to meet in this congested site, if overdeveloped. High density construction that reduces pervious ground surface risks further groundwater pollution and flooding of neighboring basement/house structures which are already at risk.
- **Master Plan Adoption Consideration:**
We believe that **by omitting this site from the Master Plan**, the Borough would significantly **increase the likelihood of the plan being adopted with little or no opposition**. Removing this controversial parcel would demonstrate responsiveness to community feedback and strengthen public trust in the planning process.
- **Alternate Use Proposal:**
We invite the Borough to consider **future alternate uses** for the Senior Center site that would better serve the public interest and preserve the character of the neighborhood.
 - A compelling example is the **green space near Toll Gate Grammar School**, which honors and memorializes a former council member and serves as a peaceful, community-oriented space.
 - The Senior Center site could similarly be repurposed in the future to **honor Pennington's history**, provide **passive recreation**, or serve as a **community gathering space**—uses that would enhance rather than burden the neighborhood.

Formal Requests

We respectfully request the following actions:

1. **Remove the Senior Center site from the current housing plan** and re-evaluate its suitability based on objective criteria including access, safety, infrastructure, and educational impact.
2. **Commission formal studies** on traffic impact, emergency response modeling, school district capacity, and environmental effects before any zoning changes or approvals are considered.
3. **Engage the community** through transparent communication, public forums, and advisory input before advancing any redevelopment plans.
4. **Preserve senior services** within Pennington Borough and ensure any relocation maintains accessibility for vulnerable populations.

Public Record Request

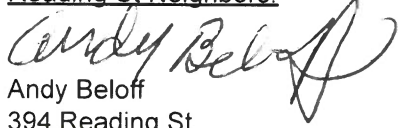
We respectfully request that this letter be **entered into the public record at the October 6, 2025 Borough Council meeting** and considered as part of all future deliberations regarding the Senior Center site.

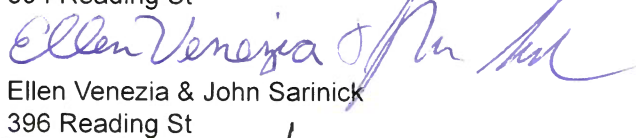
We appreciate your service and commitment to Pennington's future. We urge you to reconsider the inclusion of this site in the housing plan and work collaboratively with residents to identify more appropriate alternatives that serve both the Borough's obligations and the public interest.

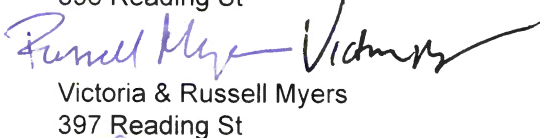
Sincerely,

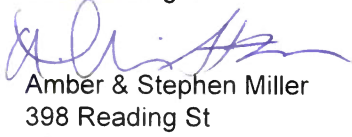
Protect Our Corner of Pennington Community Group

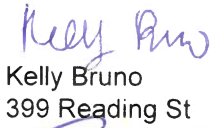
Reading St Neighbors:


Andy Beloff
394 Reading St


Ellen Venezia & John Sarinick
396 Reading St


Victoria & Russell Myers
397 Reading St


Amber & Stephen Miller
398 Reading St

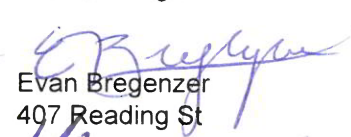

Kelly Bruno
399 Reading St


Pat & Joe Totaro
400 Reading St

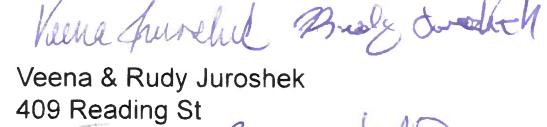

Katie & Christian Davis
402 Reading St

Georgine & Roger Johnson
404 Reading St


Rachel & Michael Palombo
406 Reading St

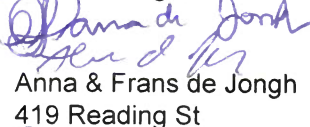

Evan Bregenzer
407 Reading St


Nicole & Michael Bates
408 Reading St


Veena & Rudy Juroshek
409 Reading St

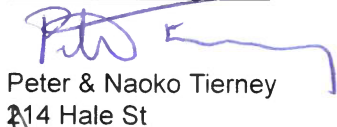

Brittany Bower & Lawrence Bower
415 Reading St


John & Eileen Spedding
417 Reading St


Anna & Frans de Jongh
419 Reading St



Hale Street Neighbors


Peter & Naoko Tierney
214 Hale St


Jonathan Reber
216 Hale St


Hannah Williams & William Ramos
217 Hale St


Bronwyn Haley & Sandra Radice
309 Hale St

Suzanne Brooks, Christopher J. Brookes
Suzanne & Chris Brookes
310 Hale St

Mary Peters, Charles Peters, Rex Peters
Mary and CJ Peters
319 Hale St

James Creegan
James Creegan
316 Hale St

Joanne & Joel Cermele
Joanne & Joel Cermele
322 Hale St

Deborah Zerbib
Deborah Zerbib
317 Hale St

Mollie & John O'Connor
Mollie & John O'Connor
324 Hale St

Alicia A Kapheim & Robert J Flynn
Alicia A Kapheim & Robert J Flynn
318 Hale St

Robert Levy
Robert Levy
326 Hale St

MICHAELA GRAVELLE & JUAN MEXCADO
MICHAELA GRAVELLE & JUAN MEXCADO
408 HALE ST.

Deborah Grant
Deborah Grant
326 Hale St

Other concerned neighbors:

Kimberly Tew
Kimberly & Benjamin Tew
404 Burd St

Annemarie & Brian Hofacker
Annemarie & Brian Hofacker
197 W. Welling Ave

Larayne and Charles Peters
Larayne and Charles Peters
17 Baldwin St

Thibaud Coroller
Thibaud Coroller
108 Voorhees Ave

Stephanie Peters
Stephanie Peters
11 Academy St

Bing Han
Bing Han
51 E. Curlis St

Alana Gomez-Wagner
Alana Gomez-Wagner
318 Sked St

Made Brian Nicorick
Made Brian Nicorick
130 W Welling Ave

All signatories above have endorsed their agreement in writing to the points addressed in this letter, whether or not they were available to sign in person.

**BOROUGH OF PENNINGTON
NEW JERSEY**

MASTER PLAN

12. Relation to Other Plans, Draft 7

Draft 3 released by Andy Jackson, Chair of the Master Plan Committee on 7/28/2025 for consideration at the 8/13/2025 Planning Board meeting. Motion to conditionally adopt the element was tabled to allow Mayor Davy to review sections 2 and 3.

Draft 7 includes Mayor Davy's suggestions for changes to sections 2 and 3 and will be presented to the Planning Board for reconsideration at its 10/8/25 meeting. The changed text is highlighted in yellow.

Contents:

- 1 Introduction**
- 2 Planning Board Roles and Responsibilities for External Plan Monitoring**
- 3 Framework for Ongoing Master Plan Implementation**
- 4 Hopewell Township Master Plan**
- 5 Mercer County Master Plan**
- 6 New Jersey State Development and Redevelopment Plan**
- 7 MCIA District Solid Waste Management Plan**
- 8 Other Regional Plans**
 - a. Delaware Valley Regional Planning Commission Strategic Plan**
 - b. NJ Department of Transportation Long Range Transportation Plan**
- 9 Influence of External Plans on Other Elements of Master Plan 2025**

Members of the Master Plan Committee

Andy Jackson (Chair), Nadine Stern, Amy Kastler-Taub, Kate O'Neill, and Board Planner Jim Kyle of KMA.

1. Introduction

The Municipal Land Use Law (MLUL) N.J.S.A. 40:55D-28(4)d states that the master plan shall include a specific policy statement indicating the relationship of the proposed development of the municipality, as developed in the master plan to (1) the master plans of contiguous municipalities, (2) the master plan of the county in which the municipality is located, (3) the State Development and Redevelopment Plan adopted pursuant to the State Planning Act, sections 1 through 12 of P.L.1985, c.398 (C.52:18A-196 et seq.) and (4) the district solid waste management plan required pursuant to the provisions of the Solid Waste Management Act: P.L.1970, c.39 (C.13:1E-1 et seq.) of the county in which the municipality is located.

Pennington Borough has chosen to include this topic as a separate element in the Master Plan. Four plans directly impact Pennington Borough.

- Hopewell Township surrounds the Borough, so its Master Plan and actions have a direct impact on the Borough and its residents. The Township and Borough also have several shared services and cooperate in a number of areas.
- The Borough is one of 12 municipalities in Mercer County and the County's Master Plan elements relating to land use and infrastructure are relevant to the Borough. All County Government departments play a role in the lives of Borough residents. The County Planning Department is responsible for the County Master Plan and has approval authority over the master plans of County municipalities. The County's Engineering and Highway divisions are responsible for County roads and bridges and other infrastructure. The County is the Borough's point of contact with the Delaware Valley Regional Planning Commission (DVRPC) the federally designated Metropolitan Planning Organization (MPO) for the Greater Philadelphia region.
- The State of New Jersey Office of Planning Advocacy (OPA) and the State Planning Commission (SPC) are responsible for the State Development and Redevelopment Plan (SDRP). The 2001 SDRP is being updated, and a preliminary draft was approved by the SPC in December 2024. The Mercer County Planning Department acts as the conduit between its municipalities and the State for SDRP development and implementation.
- The Mercer County Improvement Authority (MCIA) is an independent agency set up to provide services and programs for the County and its municipalities. It is responsible for developing, amending, and administering the District Solid Waste Management Plan. It manages the recycling or disposal of all waste in the County, including the municipal solid waste (MSW) collected by the Borough and delivered to the MCIA transfer station, and the recyclable materials collected by an independent contractor.

Borough Vision on External Plans - Be Proactive; Not Reactive

The vision for Pennington Borough's approach to external planning matters is to maintain vigilant monitoring of regional developments that may adversely affect Borough interests or conflict with adopted Master Plan policies. The Borough should ensure that its interests are

protected through early identification of potential threats and timely, informed advocacy positions developed by Borough Council based on Planning Board recommendations.

2. Planning Board Roles and Responsibilities for External Plan Monitoring

1. **External Plan Monitoring and Early Warning System** - The Pennington Borough Planning Board shall monitor external plans and developments from surrounding municipalities, County, State, and regional agencies to identify potential adverse impacts to Pennington Borough from proposed changes or developments. The Board shall assess consistency between external plans and the Borough's adopted Master Plan and flag inconsistencies or conflicts that could undermine Borough planning objectives. Whenever a change in an external plan is deemed to impact Pennington, the then-current Master Plan elements and ordinances affected should be reviewed by the Planning Board to determine if they remain consistent or need updating.
2. **Borough Council Advisory and Reporting Function** - The Chair of the Planning Board will provide regular reports to Borough Council summarizing: external planning activities that may affect the Borough, potential adverse impacts identified through monitoring, inconsistencies with the Borough Master Plan, and recommended Borough responses or positions. Urgent matters that require prompt Borough action or response shall be brought to Council immediately by the Council representative to the Planning Board or the Mayor or Mayor's representative. The Planning Board shall recommend Council positions on external plans during public comment periods or cross-acceptance processes.
3. **Impact Assessment - Hopewell Township Developments** -- The Planning Board must monitor Township activities and alert Council to:
 - a. **Economic Development Impacts** - Monitor Township commercial development plans, particularly along Route 31 corridor. Assess traffic, infrastructure, and economic impacts on the Borough from Township development decisions. Identify opportunities for coordinated development that benefits both municipalities. Alert Council to Township developments that may adversely affect Borough businesses or infrastructure. Of particular interest to the Borough is development on Route 31. Properties south of West Delaware Avenue are largely in the Township, whereas those to North Main Street are in the Borough.
 - b. **Transportation and Infrastructure Impacts** - Monitor Township transportation planning and Route 31 corridor studies. Assess potential traffic impacts on Borough streets and intersections. Identify needed Borough positions on regional transportation improvements. Recommend coordinated advocacy positions for Council consideration. Mobility issues on Route 31 and its intersections are of great concern to the Borough.
 - c. **Open Space and Land Use Impacts** - Monitor Township land use decisions that may affect Borough viewsheds, traffic patterns, or environmental conditions. Identify and alert Council and the Borough's Open Space Committee about

opportunities for joint open space acquisition that serves Borough interests. Assess impacts of Township density changes on Borough infrastructure and services.

- d. **County and Regional Plan Assessment** -- The Planning Board shall monitor Mercer County planning initiatives for potential Borough impacts and assess County infrastructure plans that may affect Borough services or development capacity. The Board shall evaluate DVRPC and State transportation plans for Route 31 and regional mobility impacts and recommend Borough positions on County and State planning initiatives. Relationships with the Mercer County Planning Department, DVRPC, and the NJ Department of Transportation are key to projects on State Route 31 in Pennington Borough and Hopewell Township.
- e. **State Development Plan Compliance and Impact Assessment** -- The Planning Board shall monitor State Development and Redevelopment Plan updates and policy changes, assess impacts of State planning area designations on Borough development capacity, and evaluate consistency between State policies and Borough Master Plan objectives. The Board shall recommend to the Mayor and Borough Council participation in cross-acceptance processes when Borough interests are at stake.

The external plans outlined above are discussed in detail in later sections.

3. Framework for Ongoing Master Plan Implementation

Threat Assessment and Opportunity Identification --The Planning Board shall conduct regular reviews to identify external developments that may; adversely impact Borough infrastructure, services, or quality of life; create inconsistencies with Borough Master Plan goals; present opportunities for beneficial regional coordination; or require Borough advocacy or opposition positions.

Strategic Recommendations to Council -- The Planning Board shall recommend proactive Council actions to address identified threats or opportunities, propose Borough positions on external planning matters, suggest timing for Borough participation in regional planning processes, and identify resource needs for effective Borough participation in regional planning.

Master Plan Consistency Review --The Planning Board shall evaluate external plans against Borough Master Plan elements, recommend Master Plan amendments when external changes create inconsistencies, assess need for ordinance updates to maintain consistency with regional requirements, and propose defensive measures to protect Borough planning objectives from adverse external impacts.

The Master Plan implementation process shall coordinate implementation priorities with external plan monitoring findings, adjust implementation strategies based on identified external

threats or opportunities, align implementation timing with regional planning cycles when beneficial to Borough interests, and incorporate defensive measures into the implementation plan to protect against adverse external impacts. See the Framing element for additional detail in implementation.

4. Hopewell Township Master Plan

The Hopewell Township Planning Board adopted its latest periodic reexamination of its Master Plan and Development Regulations on December 13, 2021. Its previous reexamination was adopted on December 15, 2011.

The current list of Township Master Plan elements, with adoption dates, is as follows:

- Round 4 Housing Element and Fair Share Plan (adopted June 26, 2025)
- Open Space and Recreation Plan Element (adopted February 24, 2022)
- Master Plan Amendment: Creation of the OP1 Zone (adopted December 8, 2016)
- Farmland Preservation Plan Element (adopted January 26, 2012)
- Land Use Plan Element (adopted November 19, 2009)
- Utility Services Plan Element (adopted November 19, 2009)
- Community Facilities Plan Element (adopted April 12, 2007)
- Circulation Plan Element (adopted March 9, 2006)
- Stormwater Management Plan Element (adopted March 22, 2005)
- Historic Preservation Plan Element (adopted December 9, 2004)

<https://www.hopewelltp.org/DocumentCenter/View/8410/2021-Periodic-Reexamination-of-the-Master-Plan-and-Development-Regulations-PDF>

A Township Planning Board recommendation in the 2021 reexamination report was that an Economic Development Plan element should be prepared. This was in response to the economic impact on the Township of the economic downturns that took place across the country during the Great Recession of 2008 and the Covid-19 pandemic of 2020-21. According to the report, “*The Economic Development Plan will provide an opportunity to review existing economic contributors, land development patterns, workforce and employment characteristics of the Township. An analysis of these factors will provide a means to develop strategies to diversify the local economy, promote workforce initiative, develop economic partnerships, increase economic and natural resiliency, and foster meaningful redevelopment opportunities that will take into consideration the location and types of development that will benefit not only new residents and employees but also provide additional development and services for existing residents.*”

The Tourism and Economic Development Advisory Committee was established by Hopewell Township Resolution 22-334 on September 19, 2022. Its goal is to promote agriculture, historical and recreational tourism, local restaurants, and other businesses. The Committee works to support existing businesses, attract new businesses, and promote tourism in the Township and the entire Hopewell Valley. In January 2025, representatives of the Pennington Borough Economic Development Commission were invited to participate in a “business-listening session” held by the Advisory Committee. An outcome was that the Township Committee and Borough

Commission would work together on development areas of interest to both parties. Of particular interest to the Borough is commercial development on Route 31. Properties to the south of West Delaware Avenue are largely in the Township, whereas those to the north are in the Borough. It would make sense that development in both locations follows a consistent and optimized plan.

The Township adopted an Open Space and Recreation Plan on June 18, 2018, to allow it to continue to participate in the Green Acres program and use the Planning Incentive Grants for the preservation of open space and recreational lands. This plan was targeted at technical and site-specific updates rather than a comprehensive update. A more comprehensive Open Space and Recreation Plan was adopted by the Township Planning Board on February 24, 2022. It included a review of and revisions to the goals and objectives of the original 2004 plan, updates to the open space and recreation inventory, amendments to the action plan based on a needs analysis and updates to the Open Space and Recreation System Map.

Pennington Borough works with partners on open space selection, acquisition and development. In addition to Hopewell Township, the partners are the Friends of Hopewell Valley Open space, D&R Greenway Land Trust, Mercer County, the New Jersey Conservation Foundation, and the State of New Jersey. These partners are actively identifying emerging land preservation opportunities. Most of the parcels close enough to be of interest to the Borough are in Hopewell Township, so it is important that the Borough and Township work together on acquisition and preservation.

Hopewell Township Land Use issues addressed in the 2021 reexamination report were focused on how the Township would satisfy its Round 3 Fair Share Housing obligations. The large housing developments on Scotch Road and Pennington-Washington Crossing Road near Pennington Circle are the outcome of these recommendations. On June 26, 2025, The Township adopted its Round 4 Housing Element and Fair Share Plan. The 2021 reexamination report said that the Township had directed the Planning Board to prepare a Preliminary Investigation Report and Redevelopment Plan for the BMS site, located at Titus Mill Road and Pennington Rocky Hill Road. The Plan was completed and has resulted in developments on the site, including the BeOne Medicines (BeiGene) facility and the Princeton West Innovation Campus. Pennington Borough was not consulted on these developments, even though they surround Pennington and have an impact on traffic, housing, services and local businesses.

Since all traffic entering and leaving Pennington Borough does so through Hopewell Township, the Circulation Plan element of the Township's Master Plan and the Borough's Mobility element should be largely in agreement on traffic management issues. In addition, since a much larger stretch of Route 31 is in Hopewell Township, any Township proposals for Route 31 will impact Pennington. The Route 31 aspects of the 2006 Circulation Plan build off the recommendations in the 2002 Route 31 Design Study. There was a positive discussion on the merits of reestablishing passenger trains on the West Trenton line. At the time it was shown as an NJ Transit candidate project. The only additions to circulation in the 2021 reexamination report were related to the Lawrence Hopewell Trail. Circulation issues on Route 31 and its intersections are of great concern to the Borough. The Borough and the Township should provide a uniform face to Mercer County and the State of New Jersey on requests for improvements to address common concerns.

In addition to partnering with Hopewell Township and Hopewell Borough in the Hopewell Valley Regional School District, the Borough has shared services agreements with the Township for Emergency Management, Fire Services, Public Health, Senior Services, and Animal Control. The Green Team and Municipal Alliance operate across Hopewell Valley.

5. Mercer County Master Plan

The Mercer County Master Plan was adopted by the Mercer County Planning Board on September 8, 2010. It consists of a Framework document and six elements:

- Farmland Preservation (2020)
- Historic Preservation (2010)
- Mobility (2010, amended 2016)
- Open Space (2021)
- Mercer County Bicycle Plan (2020)
- Mercer County Corridor Enhancement Program (2025)

<https://www.mercercounty.org/departments/planning/plans-and-reports/mercer-county-master-plan>

The Borough's Mobility Plan element discusses links to the County Mobility Plan and the Mercer County Bicycle Plan. Section 4 of the County Mobility Plan details policies and associated strategies. The policies are

1. Preserve existing transportation facilities.
2. Improve safety for all travelers.
3. Promote choice of travel mode.
4. Promote land uses that reduce reliance on automobiles.
5. Link transportation improvements to economic and environmental goals.

Strategies associated with these policies may be found in the online County Mobility Plan.

Mercer County has been aggressively acquiring open space since the County open space preservation trust fund tax ballot question was overwhelmingly approved by the voters in 1989. It has been continually supported since. Pennington is a beneficiary of the extensive efforts by the County to preserve open space and develop it for active or passive recreation or as wildlife preserves. Within easy reach of Pennington are Mercer Meadows (consists of Rosedale Park, the Mercer County Equestrian Center, the Pole Farm, and Curlis Woods), the Ted Stiles Reserve at Baldpate Mountain, Howell Living History Farm, and the Hopewell Valley and Mountain View County Golf Courses. The County is also a principal supporter of the Lawrence-Hopewell Trail (LHT). The Mercer County Open Space Plan gives the history of its preservation efforts with its partners, resulting in 27% of County Land being preserved, up from 9% in 1990. The map on page 5 of the Plan shows Pennington and its surroundings as a County "action area" for acquisitions. The Borough Master Plan discusses its purchasing partners, including the County.

Mercer County does not have an Economic Development element in its Master Plan. However, the Mercer County Office of Economic Development provides a variety of business development programs and workshops to help small and large businesses in the County build growing, successful companies, such as:

- Business Workshops; e.g. Business Fundamentals, Financing, and Procurement

- Individual Business Mentoring
- Financial Assistance for Mercer County Businesses
- Foreign Trade Zone Program
- Site Selection Services
- Employee Recruitment and Training Assistance

The County offers financial assistance through a variety of grant programs. A 2025 example is the Revitalize & Grow Grant program, which provides grants to businesses for signage and façade improvements to improve traffic for businesses and support increased tourism. Another is the Business Builder Rebate Grant program for items to help business startup or refreshing, such as accountant fees, office supplies, software and some website development. The Mercer County Purchasing Department offers a streamlined process for local businesses to navigate the County procurement process, a comprehensive system of specifications and competitive solicitations.

6. New Jersey State Development and Redevelopment Plan

The State Development and Redevelopment Plan (SDRP), also known as the State Plan, provides a vision for the future that will preserve and enhance the quality of life for all residents of New Jersey. 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 current SDRP was adopted in 2001 and is in the process of being updated by the Office of Planning Advocacy (OPA) and the State Planning Commission (SPC). The SPC approved the Preliminary SDRP update on December 4, 2024. It can be found at [https://nj.gov/state/bac/planning/documents/update-to-state-plan/Draft%20Preliminary%20SDRP%20\(SPC%20Approved%202012.4.2024\).pdf](https://nj.gov/state/bac/planning/documents/update-to-state-plan/Draft%20Preliminary%20SDRP%20(SPC%20Approved%202012.4.2024).pdf)

The Goals of the updated SDRP are to:

1. Promote economic growth that benefits all residents of New Jersey.
2. Provide an adequate supply of housing for residents of all ages and incomes in communities of their choosing that meet their needs and offer ready access to the full range of supportive goods and services.
3. Create economic opportunity through nation-leading infrastructure.
4. Revitalize and recenter the state's underutilized developed areas.
5. Effectively address the adverse impacts of global climate change.
6. Protect, maintain, and restore the state's natural and water resources and ecosystems.
7. Protect the environment; prevent and clean up pollution.
8. Protect, enhance, and improve access to areas with exceptional archeological, historic, cultural, scenic, open space, and recreational value.
9. Implement equitable planning practices to promote thriving communities for all New Jerseyans.
10. Foster sound and integrated planning and implementation at all levels statewide.

The OPC has completed the presentation of the SDRP at meetings in all the counties of New Jersey and the feedback has been incorporated into the Plan. A series of cross-acceptance meetings are scheduled for the second half of 2025 and it is anticipated that the final plan will be released at the end of 2025. Pennington Borough participated in a meeting on the SDRP update in Mercer County and will participate in a cross-acceptance session.

Pages 69-71 of the Preliminary SDRP give Policy Objectives in the following areas:

- Land Use
- Housing
- Economic Development
- Transportation
- Natural Resource Conservation
- Agriculture and Farmland Preservation
- Recreation
- Redevelopment
- Historic Preservation
- Public Facilities and Services
- Intergovernmental Coordination

Two policy objectives of particular interest to Pennington are Economic Development, and Redevelopment. Both recommend zoning changes in line with recommendations in Master Plan 2025:

“Economic Development: Encourage new businesses, private sector investment, and tourism where appropriate and based on smart growth principles. Revise outdated zoning restrictions to promote flexible workplaces that recognize the changing needs of the contemporary workplace. Any economic development occurring outside the center should be planned and designed to maintain or enhance the area’s qualities with minimum impact on agricultural or environmentally sensitive resources. Development should aim to diversify the local economy and achieve more sustainable year-round models.”

“Redevelopment: Encourage environmentally appropriate redevelopment in existing Centers and in developed areas that are or have the potential to become Centers. This can accommodate growth that would otherwise occur in the Environs and in ways that support Center-based development. Redevelop with a broad range of uses, efficient use of infrastructure, and at sufficient densities to support transit with physical design features that enhance public safety, facilitate pedestrian and bicycle activity, and reduce auto-dependency. Redevelop or repurpose obsolete commercial buildings. Amend zoning provisions to eliminate barriers that diversify existing building stock. For existing structures located in flood prone areas, elevate buildings and critical infrastructure to reduce the impacts of natural hazards.”

The SDRP provides a balance between growth and conservation by designating planning areas that share common conditions regarding development and environmental features. The 2025 update revised the planning areas slightly from the 2001 Plan and the criteria can be found in the preliminary SDRP, from page 72 on:

- Metropolitan Planning Area (PA1), where much of the state’s future growth will occur in compact development or redevelopment.
- Suburban Planning Area (PA2) including Designated Centers in any planning area.
- Fringe Planning Area (PA3), where the goal is to accommodate growth in Centers.
- Rural Planning Area (PA4)
- Rural/Environmentally Sensitive Planning Areas (PA4B), which will maintain the Environs as large contiguous areas of farmland, open space and forested areas.
- Environmentally Sensitive Planning Area (PA5) and Barrier Islands (PA5B).
- Critical Environmental Sites (CES) & Historical and Cultural Sites (HCS)

As with the 2001 SDRP, the 2024 Preliminary SDRP places Pennington Borough within a 10 square mile Fringe Planning Area (PA3) that runs about 8 miles WNW from Washington Crossing to Mount Rose. In a PA3 area, the intention of the State Plan is to:

- Accommodate growth in Centers.
- Protect and enhance natural resources.
- Protect the Environs primarily as open space or forested areas.
- Provide a transition between more developed Metropolitan and Suburban Planning Areas and less developed Rural and Environmentally Sensitive Planning Areas.
- Confine programmed sewers and public water services to Centers, except where public health is at stake.
- Revitalize towns and older traditional communities.
- Protect and diversify the character of existing stable communities.

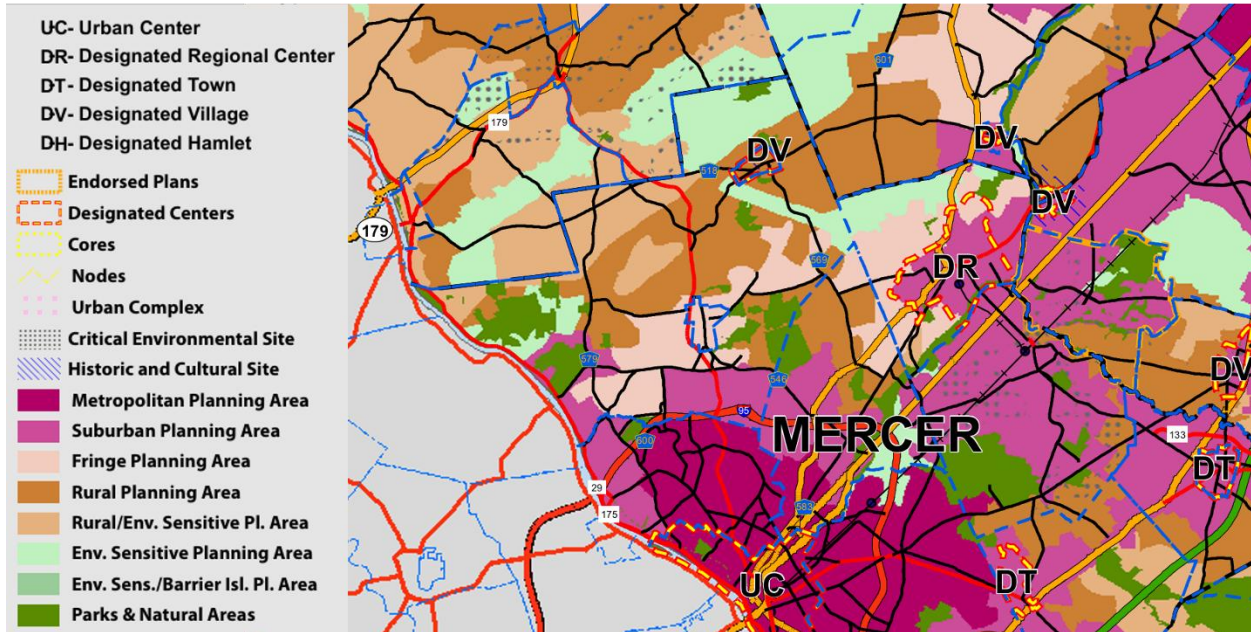
Link to 2001 Policy Map: <https://nj.gov/state/bac/planning/documents/stateplanmap.pdf>

Link to 2024 Policy Map:

<https://njogis-newjersey.opendata.arcgis.com/datasets/dosopa::planning-area-boundaries-of-the-nj-state-development-and-redevelopment-plan-new-jersey-1/explore>

Figure 1. 2021 SDRP Policy Map. Pennington Borough can be seen within the pink area.

Policy Map of the 2001 State Development and Redevelopment Plan



The following criteria are intended as a general guide for delineating the Fringe Planning Area PA3. Local conditions may require flexible application of the criteria to achieve the Policy Objectives of this Planning Area.

- Population density of less than 1,000 people per square mile.
- Generally lacking in major infrastructure investments. The circulation system is mainly provided by state and county roadways with major emphasis on moving traffic through the area. Some Centers are served by public water and sewer.
- Land area is greater than one (1) square mile.

7. MCIA District Solid Waste Management Plan

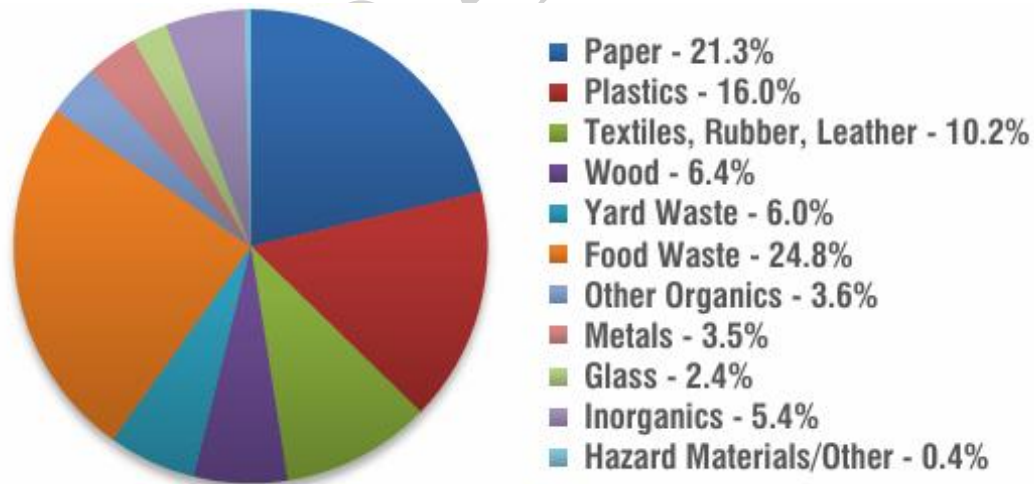
In 2002, the New Jersey Department of Environmental Protection (NJDEP) was required to update and re-adopt the Statewide Solid Waste Management Plan because of significant changes to the regulatory and legal environment since the last plan update in 1993. The Department issued a revised plan on January 3, 2006. As a requirement of the State Plan update, each county was required to amend its District Solid Waste Management Plan to reflect the findings and recommendations of the State Plan. In particular, the State Plan calls for the maximization of Source Reduction techniques to reduce or eliminate the disposal of certain waste from the solid waste stream. Equally important, the State Plan called for the continued aggressive approach to recycle 60% of the state's total solid waste stream and 50% of the state's municipal solid waste (MSW) stream. As the designated planning and implementation agency, the independent Mercer County Improvement Authority (MCIA), prepared the District Plan update in December 2006. It can be found at www.mcianj.org/filestorage/133/154/SWMP.pdf

The State Plan mandated that the District Plan include the following:

- Designation of the department, unit or committee of county government to supervise the implementation of the District Plan.
- An inventory of the quantity of solid waste generated within the district for the ten-year period commencing with the adoption of the District Plan.
- An inventory of all solid waste facilities and recycling facilities including approved waste types and amounts, hours of operation and approved truck routes.
- An outline of the solid waste disposal strategy to be utilized by the district for the ten-year planning period.
- A procedure for processing applications for inclusion of solid waste and recycling facilities into the District Plan.
- A strategy for attainment of the recycling goals as outlined in the State Plan.
- An analysis of the existing solid waste collection systems and transportation routes within the solid waste management district.
- The methods of financing solid waste management within the district.

The District Plan includes a draft ordinance for Municipalities on Recycling. Pennington Borough adopted its current recycling plan on December 29, 2008 by Ordinance 2008-08. It can be found in Chapter 172 of the Borough Code.

In September 2015, T&M Associates prepared a report for the MCIA on the quantification and characterization of solid waste and recycling, following a yearlong study of waste delivered to the MCIA waste transfer station in Ewing Township in 2013. The composition of the MSW can be found in the pie chart below.



The study also found that the County’s waste stream met the State’s goal of an overall recycling rate of 60% but at 42% fell short of the 50% target for municipal solid waste. As a result of the study, targets have been set to increase the recycling levels of certain components of the MSW and these have been communicated to the municipalities. The 25% of food waste was noted and programs for composting were recommended.

8. Other Regional Plans

a. Delaware Valley Regional Planning Commission (DVRPC)

DVRPC is the federally designated Metropolitan Planning Organization (MPO) for the Greater Philadelphia region, established by an Interstate Compact between the Commonwealth of Pennsylvania and the State of New Jersey. Pennsylvania members are Bucks, Chester, Delaware, Montgomery, and Philadelphia counties, plus the City of Chester. New Jersey members are Burlington, Camden, Gloucester, and Mercer counties, plus the cities of Camden and Trenton. DVRPC serves strictly as an advisory agency. Any planning or design concepts as prepared by DVRPC are conceptual and will require engineering design and feasibility analysis. Actual authority for carrying out any planning proposals rests solely with the governing bodies of the states, local governments or authorities that have the primary responsibility to own, manage or maintain any transportation facility.

DVRPC provides services to member governments and others through planning analysis, data collection, and mapping services. Aerial photographs, maps and a variety of DVRPC publications are available to the public. The DVRPC traffic count data was used in the analysis in Appendix A of the Mobility Plan in the Borough's Master Plan 2025. DVRPC's current strategic plan, Connections 2050, was approved in 2021 and is currently being updated. Details of the process can be found on <https://www.dvrpc.org/plan/>. Public input is being sought to update the strategic plan, and proposed projects will be considered under their weighted Benefits Criteria process for inclusion in the Transportation Improvement Program (TIP).

b. New Jersey Department of Transportation (NJDOT) Long Range Transportation Plan

The current New Jersey mobility plan is the State Long-Range Transportation Plan (SLRTP), published in October 2008 with the title "Transportation Choices 2030". It can be found at <https://www.nj.gov/transportation/works/njchoices/pdf/2030plan.pdf>. The ten goals of the plan can be found in its Section 5. The State is currently working on an updated plan "Keep It Moving NJ!" aimed at 2050. No release date for the plan has been given. NJDOT describes the plan as "*a forward-thinking initiative to consider current challenges and anticipate future needs, ensuring that our transportation infrastructure remains robust and resilient*". NJDOT is currently obtaining input from the public.

In its Mobility Plan, Mercer County describes its relationship with NJDOT as follows: "*NJDOT is a primary partner with Mercer County for local project implementation through its local aid formula funding (state funds) for bridge and highway maintenance. NJDOT is also a very active participant in developing DVRPC's TIP, since most federal funding goes to projects on state-maintained interstates and federal highways. County participation and support for these projects is vital because federal and state highways are the primary links in the county's transportation network.*" This relationship is key to projects on State Route 31 in Pennington Borough and Hopewell Township.

9. Influence of External Plans on Other Elements of Master Plan 2025

The wide range of topics addressed by the external plans described above can influence any of the elements of the Pennington Borough Master Plan. The monitoring process recommended in the goals may trigger amendments to Master Plan elements and the Borough Code to meet mandated sections of County, State and MCIA plans. In some cases, this may trigger an update and readoption of an element. The monitoring process will allow a proactive response by the Council and Planning Board, rather than a reactive one.

DRAFT

Notes on this Revised Draft of the Mobility Plan

This revised draft of the Mobility Plan element will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the Mobility Plan element, the following duplication issues were identified:

1. GBESE 1: Electric Vehicle Charging: Strategies for installing Level 1 and 2 charging in buildings and small developments will be in the GBESE. Commercial Level 2 and 3 charging installations at strategic locations in the Borough will be covered in the Mobility Plan element.
2. GBESE 2: All mobility issues for large vehicles such as cars, trucks and buses, and personal mobility such as walking, bicycling, scooters and skateboards, including battery-powered, and the roads, sidewalks and other routes in the Borough will be found in the Mobility Plan element. Only driveway mobility issues will be in the GBESE.
3. Economic Development Plan 1: Parking issues related to businesses and commercial facilities were addressed in the Economic Development Plan rather than in the Mobility Plan. Associated goals remain in the Economic Development plan and are referenced in this Mobility Plan.
4. Economic Development Plan 2: The Economic Development Commission is concerned about the limited ways for pedestrians, hikers, and cyclists to move between the Town Center and Route 31. A summary of these concerns is included in Section 3 of this Mobility Plan.

During the revision, comments from the public received after the conditionally adopted elements were published on the website have been considered and changes made where appropriate.

[These notes are for information only and will not appear in the final version of the element.]

MASTER PLAN
BOROUGH OF PENNINGTON
NEW JERSEY

4. Mobility Plan Element (Revised)

The final draft of the Mobility Plan from the element writing team was conditionally adopted by the Planning Board on March 12, 2025, and posted on the Borough website for public comment.

This revised version includes updates based on public comments and changes based on comparison of all elements to ensure consistency. These are highlighted in yellow. It will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

Contents

1. Introduction
2. Mobility Plan Vision, Goals and Strategies
3. Route 31 and its Issues
4. Complete & Green Streets, and Vision Zero
5. Parking
6. Zero-GHG-Emission Vehicles
7. Public Transit
8. Relationship with Regional Transportation Plans
9. Relationship with Other Plan Elements in MP2025

Appendix A. Traffic Data in and around Pennington

Appendix B. Compilation of Pennington Circulation Plan components from the 1998 Master Plan and the 2005, 2013 and 2023 Reexamination Reports.

Appendix C. Greenhouse Gas Emissions Calculations

Mobility Plan Element Writing Team

Thanks go to the following people who helped create this draft of the Mobility Plan element: Roger Demareski, Meredith Moore, Allison Neary, Natalie Shivers, Kristin Tunkel, Rick Smith, Doug Pinelli, with Andy Jackson as chair.

1. Introduction

The Municipal Land Use Law (MLUL) includes a Circulation Plan as a permitted Master Plan element. N.J.S.A. 40:55D-28(4) describes the element as follows:

“A circulation plan element showing the location and types of facilities for all modes of transportation required for the efficient movement of people and goods into, about, and through the municipality, taking into account the functional highway classification system of the Federal Highway Administration and the types, locations, conditions and availability of existing and proposed transportation facilities, including air, water, road and rail.”

Following the lead of Mercer County, we have chosen to name this the **Mobility Plan** element since this implies a broader range of users than the name circulation. The Plan should not only accommodate large vehicles such as cars, trucks and buses on the roads, but also personal mobility such as walking, bicycling and using personal vehicles such as scooters and skateboards, including those that are battery powered. Because of its relatively small size and its location, the Borough is also concerned with regional mobility conditions and proposals. Since the Borough is essentially a fully developed community, opportunities for major mobility infrastructure improvements are limited. With the wide variety of potential users, the system of roadways, sidewalks, bikeways and other pathways needs to be designed and regulated to maximize safety while ensuring efficient traffic movement.

There are seven categories in the FHA functional highway classification system. The roads in Pennington Borough are shown below under these classifications:

1. Interstates
None
2. Other Freeway/Expressway
None
3. Other Principal Arterial
State Route 31
4. Minor Arterial
County Route 640 – Pennington Road, South and North Main Street
County Route 546 – South Main Street to Lawrenceville-Pennington Road
5. Major Collector
County Route 631 – Ingleside Avenue
County Route 624 – Pennington Titusville Road, West and East Delaware Avenue
6. Minor Collector
County Route 623 – Pennington-Harbourton Road
Broemel Place and Green Street south of Broemel Place
7. Local
All other Borough roads

The Delaware Valley Regional Planning Commission (DVRPC, see Section 8a below) presents traffic counts on its website <https://www.dvrpc.org/webmaps/trafficcounts/>. It can be searched by municipality or Zip Code. Traffic counts for roads in and around Pennington have been extracted from data for Zip Code 08534 and presented in Appendix A, Table A1. Most of the counts are

between March 2022 and March 2024. The counts have been added to a schematic map of Pennington in Figure A1 to give a general picture of traffic flow in and around Pennington. From 9,000 to 9,500 vehicles per day join Route 31 northbound from Pennington Circle. Of these, around 8,400 travel as far as the North Main Street intersection, meaning around 800 leave Route 31 for destinations likely on the west side of Pennington. About 900 vehicles join Route 31 from North Main Street. Around 3,000 vehicles per day enter Pennington via Pennington Road from Pennington Circle and most of these travel as far as the Main Street traffic lights at Delaware Avenue. About 3,300 vehicles per day pass in each direction on East Delaware Avenue and onwards to Pennington-Rocky Hill Road. About 3,200 vehicles leave or join Route 31 on Pennington-Hopewell Road, representing traffic passing through Pennington on Route 31 on the way to Hopewell. The DVRPC count does not differentiate between automobiles and trucks. Such data would be useful.

The DVRPC daily count is generated from hourly counts which allows the visualization of how traffic is distributed during the day. Figure A2 shows three examples: southbound Route 31, north of Pennington-Harbourton Road; westbound East Delaware Avenue, east of Main Street; and northbound South Main Street, north of Curlis Avenue. All show morning and afternoon peaks with lesser peaks around lunchtime. Peaks for Route 31 are just under 700 vehicles per hour, Delaware Avenue 300 per hour and northbound Main Street 250 cars per hour. We will explore with DVRPC the opportunity to gather additional data in and around Pennington.

In preparing this Mobility Plan element, we benchmarked the Circulation Plans in the Master Plans of nearby communities: Hopewell Township, Hopewell Borough, Princeton, Bordentown, Lambertville, Stockton, Rocky Hill, and Hightstown. We also reviewed the Circulation and Sidewalk Plan of the 1998 Pennington Borough Master Plan and the circulation sections in the 2005, 2013 and 2023 Master Plan Reexamination reports (Appendix B). We also considered the findings and recommendations of the 2002 Route 31 Design Study that applied to the Borough.

The vision and goals for the Mobility Plan element are a subset of the overall Master Plan 2025 vision and goals developed by the Master Plan Committee (MPC) and the Citizens Advisory Committee (CAC). The CAC is composed of 15 resident volunteers appointed by the Mayor on October 4, 2023. The role of the CAC is to assist the Planning Board in any area assigned to it, as detailed in NJ MLUL 40:55D-27a. In this case, the CAC is assigned to help the Planning Board develop Master Plan 2025. Their role is to work with the MPC and with the Committees and Commissions developing draft elements for the Master Plan. CAC members serve as community contacts, obtaining feedback and buy-in as the Plan elements develop.

In the fall of 2023, the MPC and CAC worked together to develop the vision and goals for the updated Master Plan. Their report was reviewed, modified and endorsed by the Planning Board in a public meeting on January 10, 2024. The modified vision and goals were presented to the public at an Open House at Borough Hall on April 10, 2024. Minor revisions were made based on feedback from Borough residents. The resulting list of draft goals was distributed to the teams developing the Master Plan elements as a guide for their discussions. The Mobility goals in that report were the starting point for the Mobility Plan element writing team.

2. Mobility Plan Vision, Goals and Strategies

Pennington Borough's visions for mobility are:

- To have transportation policies that reduce automobile use in the Borough.
- To provide safe sidewalks for pedestrians of all ages and abilities, and safe routes for bicycles and other low speed personal vehicles, and link them to schools, businesses and adjacent open space and recreation areas.
- To ensure that proposed mobility enhancements respect the preservation of Pennington's historic character and, also, do not impede the passage of emergency response vehicles.
- To provide adequate parking for customers of businesses in the town center while meeting the parking needs of business employees and residents.
- To continually improve highway access and crossing management for Route 31.
- To minimize the impacts of transportation on the environment, including greenhouse gas emissions, and air and noise pollution.
- To implement Complete & Green Streets, and Vision Zero policies.
- To promote public and other transit alternatives to reduce traffic congestion and provide services to young and old residents and to people with disabilities.

The Mobility Plan goals and strategies are blended from five sources;

- The MPC/CAC Master Plan report approved by the Planning Board in a public meeting on January 10, 2024, and presented to the public at an Open House on April 10, 2024.
- The 2023 Master Plan Reexamination report adopted by the Planning Board on May 10, 2023, which reviewed progress on the circulation goals of the 1998 Master Plan, and the reexaminations of 2005 and 2013. See Appendix B.
- The Open Space and Recreation Plan (OSRP) conditionally adopted by the Planning Board in a public meeting on June 12, 2024.
- The Green Buildings and Environmental Sustainability (GBESE) Plan conditionally adopted by the Planning Board in a public meeting on November 13, 2024.
- Recommendations pertaining to Pennington in the 2002 Route 31 Design Study.

Background to the topics addressed by the goals will be found in Sections 3-8.

The goals are numbered below, and the associated strategies are listed below each goal.

1. Focus on the safety of vulnerable road users who are not in cars.
 - a. Develop a robust network of well-lit sidewalks, personal vehicle lanes, sharrows and shared-use paths. Reinforce speed limits with more and better signs and reminders. Reduce the width of the marked car and truck lanes to the minimum possible to meet regulations in order to reduce pedestrian crossing distances and maximize the roadway availability for personal vehicles. Personal vehicle lanes should be kept like roadways and not be a repository for plowed snow, leaf piles, trash cans, etc.
 - b. Create infrastructure for pedestrians, bicycles and personal mobility vehicles, including battery-electric powered, while ensuring that new facilities respect the

- district's historic aesthetic. Explore options for providing 110V charging for small electric vehicles and be open to e-scooter and e-bike ride-share proposals.
- c. Follow New Jersey Complete & Green Streets design policies, adopted by Council in 2014 and modified in 2016, when designing and updating Borough roads, and prioritize personal transportation over cars and truck traffic: https://www.nj.gov/transportation/eng/completestreets/pdf/CS_Model_Policy_2020.pdf
 - d. The design of modifications to Borough roads should be coordinated with first responders to ensure that all lanes are wide enough and are free of obstructions such as chokers and speed bumps that would delay emergency response.
 - e. Follow the principles of Vision Zero, adopted by Council in 2022, which encourages municipalities to adopt achievable goals to prevent traffic-related severe injuries and fatalities: <https://www.visionzero4nj.org>
 - f. Install bicycle route signs and pavement marking on those streets best suited and safest for bicycles such as the Great Western Bikeway and other connections to bicycle routes outside the Borough – see the Proposed Bike Route map in the 2024 Open Space and Recreation Plan element (OSRP).
 - g. Make cycling to Toll Gate school safer by constructing a bike path on the south side of East Curlis Avenue. The width of the current sidewalk is inadequate for bicycle use, pedestrian use, and car drop-off.
 - h. Ensure the safety of pedestrians by requiring homeowners and businesses to keep their sidewalks in good condition and free of shrubbery and tree overhangs and by enforcing the ordinances to that effect. The snow removal ordinance should also be enforced.
 - i. Reduce the hazard to pedestrians and bicyclists from the lack of dedicated side lanes on the sharply curved North Main Street bridge over the railroad tracks. In the near term, consider lowering the speed limit on the bridge and/or speed bumps and add flashing pedestrian warning signs at both ends of the bridge. A more permanent solution would be to use the piers from the previous bridge to support a new pedestrian/bike bridge connecting the Baldwin Lake Preserve and the Borough Public Works property. The bridge would be in Hopewell township but both Borough and Township residents would benefit from this infrastructure improvement.
2. Increase the number of ways to move around our area without getting in a car.
 - a. Enhance pedestrian, bicycle and personal mobility vehicle linkages to Borough parks and trails into Mercer County.
 - b. Improve access to safe trails outside the Borough with a “Stony Brook-Presidential Hill Connector” to link the LHT with neighborhoods south of East Delaware Avenue.
 - c. Extend bike-friendly linkages to the south, taking advantage of the Great Western Bikeway (GWB) route. Bike lanes along South Main Street could connect to the GWB for rides towards Lawrenceville and to enable cyclists on the GWB to easily divert to visit Pennington’s Town Center and/or pass through Pennington as a connection to the Lawrence-Hopewell Trail.
 - d. Ask Hopewell Township to add personal vehicle lanes on Wellington Drive to allow Borough residents to ride safely to shopping and dining opportunities on Denow Road while avoiding the safety risks of riding along Route 31.

- e. Encourage property owners in the Route 31 commercial corridor, whose properties can be safely reached by bicycle from the Borough, to provide bike racks.
3. Manage increased traffic passing through the Borough to and from Hopewell Township's new industrial developments, such as BeOne Medicines (BeiGene) and tenants of the Princeton West Innovation Campus on Pennington-Rocky Hill Road, and new housing developments being constructed on Washington Crossing Road and Scotch Road, and proposed on Nursery Road.
 - a. Work with the County to ensure good traffic flow at the intersection of Main and Delaware to minimize traffic bypassing the light by using residential streets.
 - b. When addressing the potential impacts of increased traffic from regional developments, ensure that the historic district remains accessible without compromising its charm or safety.
 - c. Introduce new signage at the gateways to Pennington to reinforce the speed limit and educate drivers on the need to respect and protect other road users. Follow models used in the UK, as described in Section 4a.
 4. Reduce congestion on Route 31 and increase safety for non-car users along the route.
 - a. Develop and implement creative ways to reduce traffic jams at the traffic signal at Route 31 and West Delaware Avenue, including the possibility of an overpass.
 - b. Improve the safety of pedestrians, bicyclists and other low-speed personal vehicles users crossing Route 31 at West Delaware Avenue.
 - c. Work with Hopewell Township, Mercer County and the State to increase the number of guarded pedestrian/bicycle crossings of Route 31. Currently there are none for 2.2 miles between West Delaware Avenue and Denow Road. There will be one after the Ingleside Avenue traffic light is installed, but the remaining gaps will be over a mile.
 - d. Request that the County and CSX railroad build a safer bridge on West Delaware Avenue with less steep slopes and clearer sightlines to traffic stopped at the Route 31 traffic light. The bridge should be designed to be safer for pedestrians, bicyclists, and personal mobility users. Currently there is an exposed gas line on top of the bridge that should be better concealed and protected from the elements.
 - e. Replacement of the aging CSX bridge over Broemel Place should be prioritized and should include a solution to frequent flooding that occurs under the bridge.
 - f. Suggest that DVRPC consider the possibility of a roll-on, roll-off truck-train service between I-295 in Ewing and I-287 in Bridgewater using the current CSX route.
 5. Address various parking concerns in the Borough.
 - a. Work with the Economic Development Commission to find innovative ways to increase the available parking for customers of businesses in the town center while meeting the parking needs of business employees and residents. See the Economic Development Plan recommendation 3. Mobility, Access and Parking, goal b. for further details.
 - b. Parking solutions proposed within the historic district should prioritize compatibility with its historic setting.

- c. Work with the County to equitably resolve the conflict between the need for residential and commercial on-street parking and the desire for dedicated bike and micro-mobility lanes on Main Street and on Delaware Avenue.
 - d. Control the temporary placement of contractor vehicles to minimize the impact on traffic, particularly vulnerable low speed vehicles that may need to move into the main traffic flow to avoid them.
 - e. Look for opportunities to replace impervious parking coverage with pervious cover to improve groundwater replenishment and reduce flooding.
6. Eliminate flooding on all roads in Pennington Borough.
- a. Eliminate flooding on Route 31, West Delaware Avenue, Broemel Street, North Main Street, Eglantine Avenue, and East Franklin, which impedes the passage of emergency vehicles to many parts of the Borough.
 - b. Increase awareness of flooding hazards to road users and pedestrians to save lives.
 - c. Flooding-related infrastructure improvements for mobility should respect the goals of the Municipal Stormwater Management Plan (MSWMP). Improvements close to waterways or wetlands, such as bridge or culvert replacements, should include restoration of the natural systems in the scope of work, where appropriate.
7. Promote the use of electric vehicles (EVs) and other zero-GHG emissions vehicles.
- a. Work with PSE&G to ensure that enough power will be available in Pennington to support electric vehicle charging and the electrification of residences aimed at reducing CO₂ emissions.
 - b. Facilitate the installation of Level 2 (220V, 45-amp) or Level 3 (440V, 150+ amp) electric vehicle charging stations at central locations for residents without a suitable private location, such as a garage or driveway, for charging. The placement of EV charging stations must balance modern mobility needs with the preservation of historical integrity. All EV chargers, including residential, must have an electrical disconnect within 25 feet of the charger easily accessible to first responders.
 - c. Encourage all new developments to install Level 2 (220V, 45-amp) electric vehicle chargers.
 - d. Ease the permitting for the installation of Level 2 electric vehicle charging in existing homes while ensuring they are installed correctly for safety.
 - e. Support commercial Level 3 charging along Route 31 and in the Borough center to incentivize visitors driving EVs to use local businesses.
 - f. Replace the Borough operational vehicle fleet with electric or hydrogen-powered vehicles when practical.
 - g. Advocate with PSE&G to allow vehicle-to-grid and vehicle-to-home bidirectional charging to improve the economics of EV ownership, replace fossil fuel home backup generators and help meet grid demand in peak periods.
 - h. Ensure that emergency service personnel are trained in EV accident response and have the right equipment to respond to an EV fire. Provide guidance to residents on how to help when an EV is involved to avoid an electric shock.
8. Enhance public transportation and other alternative transportation options

- a. The Borough should conduct regular surveys to determine where Borough residents travel and under what circumstances they would choose public transport, and what type of services they would use.
 - b. Based on needs identified from the surveys, collaborate on regional transportation initiatives with the County and the State.
 - c. Encourage the further development of various transit services for the elderly, disabled, and other transportation-dependent people such as those too young to drive and people who do not own a car.
 - d. Explore the integration of public and private school transportation services with other transportation services to better serve the needs of the students and the community.
 - e. Encourage the expansion or development of private transportation services such as taxis, shuttles, carpools and app-based car services to reduce private car use.
 - f. Make information available to the public on transit services using print and electronic media.
 - g. Work with neighboring communities in Mercer and Somerset counties to encourage DVRPC's long-term goal to reestablish passenger train service between West Trenton and Bound Brook, with a station in Pennington if the landfill is removed.
9. The Borough should arrange for regular traffic and parking studies in and around Pennington and monitor changes to gauge the effectiveness of actions taken in response to the Mobility Plan.
- a. When the industrial and residential developments in the Township are completed, a comprehensive traffic study should be undertaken to provide recommendations for managing traffic in Pennington. This may be possible by comparing historical and ongoing traffic counts by the Delaware Valley Regional Planning Commission.
 - b. Route 31 traffic studies by DVRPC, the State or the County should be designed to generate data of use to Pennington Borough. Long-distance tractor trailer trucks should be counted separately from cars and local delivery trucks.
 - c. The Hopewell Valley Regional School District should prepare traffic projections based on student intake from surrounding areas. Items to address would be parking for student drop-off/pick-up at Toll Gate Elementary School, the impact of the Middle and High Schools on Route 31 and West Delaware intersection congestion, and the impact of the reduced availability of school buses in the Borough, and the effect of the cost to residents on bus use.
 - d. The Borough should institute a monitoring program to measure the success of the strategies applied in traffic reduction and safety improvement.
 - e. The Economic Development Commission should conduct regular studies of business parking needs as businesses and conditions change.

3. Route 31 and its Issues

The section of Route 31 from Pennington Circle to North Main Street was originally constructed as a bypass around Pennington. Like many bypasses, it became a location for shopping centers and other commercial buildings with large, paved parking lots separating the buildings from the roadside. Traffic conflicts are common; vehicles turning into shops and commercial buildings,

and pedestrians and vehicles crossing Route 31 at West Delaware Avenue must contend with heavy traffic driving north and south on Route 31. This becomes acute when the Middle and High Schools are starting and ending a school day. This intersection has also been subjected to flooding in recent storms.

As summarized in the introduction and reported in Appendix A, the Delaware Valley Regional Planning Commission (DVRPC) conducts regular traffic counts around the region, see website <https://www.dvrpc.org/webmaps/trafficcounts/>. Traffic counts for roads in and around Pennington are presented in Table A1 and on a schematic map of Pennington in Figure A1. From 9,000 to 9,500 vehicles per day join Route 31 northbound from Pennington Circle. Of these, around 8,400 travel as far as the North Main Street intersection, meaning around 800 leave Route 31 for destinations likely on the west side of Pennington. About 900 vehicles join Route 31 from North Main Street. About 3,200 vehicles leave or join Route 31 on Pennington-Hopewell Road, representing traffic passing on Route 31 through Pennington on the way to Hopewell Borough. The DVRPC database does not differentiate between cars and trucks and gives no information on seasonal or weekday-weekend differences. Such data would be useful. Figure A2 shows an hourly vehicle count for Route 31 and shows peaks of about 700 vehicles per hour in each direction in the morning and again in the afternoon.

Only about a half a mile of Route 31 passes through Pennington Borough, from just south of the West Delaware Avenue intersection to the northwest corner of the Heritage development, plus two small triangular sections, one of which includes part of the CSX Railroad bridge and one just south of that bridge. However, Route 31 has a major impact on Pennington Borough from Denow Road to the North Main Street intersection, which includes six gateways to the Borough; Pennington Road, Ingleside Avenue, West Delaware Avenue, Broemel Place, West Franklin Avenue, and North Main Street. Route 31 is the main route out of the Borough to the south and the north. It is of vital interest to the well-being of the many Borough residents who frequent businesses at the Pennington Circle and at the Hopewell Crossing Shopping Center on Denow Road. Pennington Borough must work with Hopewell Township, Mercer County, NJDOT and DVRPC to protect the interest and safety of Borough residents who use this stretch of Route 31.

Truck traffic on Route 31 is a major concern to Pennington Borough and Hopewell Township, and to Flemington Borough, Raritan and Somerville. Routes 31 and 202 provide the most convenient route from I-95/I-295 to I-287/I-87 between the Atlantic states to the south and northern New Jersey, eastern New York, western New England and eastern Canada. Until 1979, through truck traffic was intended to be carried on interstate extension I-95/I-695 to be constructed from a junction north of Route 31 on I-95 (now I-295) to Route I-287. This project was de-designated in 1980 due to local opposition and one result is the current heavy truck traffic on Route 31. See: www.nycroads.com/roads/I-695_NJ/

The Mercer County Mobility Plan uses this de-designation as a cautionary example regarding the need to preserve rights-of-way for transportation: “Preserving the possibility of future connections is one of the most important functions of this mobility plan. Several connections in this plan are almost inconceivable today, either because of current environmental regulations or stakeholder opposition. Conditions of the moment, however, should not forever preclude the possibility of a sensible project. For a cautionary example, the de-designation of an interstate link

between I-95 in Hopewell Township and I-287 in Somerset County was hailed as a victory for preservationists in the 1970s. Today, the same groups rue the heavy truck traffic on US 206 and NJ 31 that the interstate link would have carried, and development has come anyway, filling in the proposed right of way. Seeking to avoid that fate, this plan identifies projects that may be highly desirable if conditions change.”

As input to this Mobility Plan, the 2002 Route 31 Design Study Report was reviewed to identify problems and recommend solutions that are still relevant to mobility today. The Report was prepared for Pennington and Hopewell Township by Dodson Associates with the aid of a Smart Growth Planning Grant and was released after three public meetings. See:

https://www.penningtonboro.org/sites/g/files/vyhlf5426/f/uploads/2002_route_31_design_study_1.pdf.

Proposals to widen Route 31 to speed up the flow of traffic from I-95 (now I-295) to Route 202 were discussed in the 2002 Study report and are a continuing concern. The existing Route 31 right of way can accommodate four lanes of traffic and widening has been discussed by NJ-DOT in the past. The 2024-2033 NJ-DOT Statewide Transportation Improvement Program (STIP) shows no proposals for Route 31, <https://www.nj.gov/transportation/capital/stip2433/sec3.shtm>. As voiced by the community at large during the public meetings held by Dodson Associates in 2002, an undivided four (4) lane highway is not acceptable to Pennington Borough and the surrounding community and will be opposed by Pennington Borough and Hopewell Township. However, it is classed by NJ-DOT as a desirable typical section of 4 lanes on the project plan Planned Projects Quadrant Map 5 in Appendix B of the Mercer County Master Plan.

The DVRPC conducts a Congestion Management Program in accordance with Federal guidelines. Its latest report was in 2023, <https://www.dvrpc.org/reports/24135.pdf>. It explains what is meant by congestion, how it is measured, and how congested sites are ranked so that transportation funds can be most effectively used. It gives congestion data separately for Pennsylvania and New Jersey. Table 7 of the report shows 4 sections of Route 31 being classed as Focus Roadway Corridor Facilities out of 130 such sections in the five NJ counties in the DRVPC region. The section from CR 623 (Pennington Titusville Rd.) to CR 518 (Lambertville Hopewell Rd. is shown as somewhat congested. However, when other criteria are factored in, it gets a low ranking in the allocation of Transportation Improvement Program (TIP) resources compared with other congested sites in the region. An interactive map of the results is found at <https://dvrpcgis.maps.arcgis.com/apps/MapSeries/index.html?appid=b2b9f9a42dd84f36a4059db56c89b19e>. Clicking on the Focus Roadway Corridors tab and zooming to Pennington shows the section of Route 31 from I-295 to Pennington Titusville Rd. as somewhat congested. Clicking on 8C Pennington Borough on the CMP Corridor and Sub-corridor Areas tab brings up a link to a table of strategies that can be tried to reduce congestion without TIP funding. This data has been copied into Appendix A, following the traffic data. The most promising statement is that it is in the top 20% of NJ sub-corridors for anticipated volume to capacity ratio (V/C) which suggests that it may be in line for funding in the long term. However. It also notes that given the levels of anticipated congestion, adding capacity to existing roads (e.g. 4 lanes for Route 31) and transit capacity-adding strategies are appropriate in this sub-corridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.

Pennington Borough, Hopewell Township and Mercer County should bring their concerns about the Route 31 and West Delaware Avenue intersection to the attention of the DVRPC. As discussed in Section 8a, the DVRPC is currently updating the strategies in its long-range plan, Connections 2050, and is seeking public input on projects to be included in the Transportation Improvement Program (TIP). DVRPC has developed a performance-based Benefit Criteria Evaluation process for new project candidates. Seven benefit criteria are assigned weightings and are used to determine how candidate projects support federal Transportation Performance Measures and align with the vision and goals of the DVRPC plan. Of the seven, this intersection meets three; safety [27%], facility asset condition and maintenance (the frequent flooding) [22%] and reliability and congestion [11%] for an encouraging total weighting of 60%.

DVRPC's long range plan, Connections 2050, presents a table and map of major regional transportation projects in the next 25 years. As discussed in Section 7c below, it includes the re-establishment of passenger service from West Trenton Station to Bridgewater, and on to Newark and New York. An innovative way to reduce truck traffic on Route 31 and Route 202 would be to upgrade this project to accommodate roll-on, roll-off "truck-trains" in addition to the passenger trains. The concept would be to rebuild the line as an electrified double track (it used to be double track until the 1980's, so the track bed is wide enough) and build trains of roll-on, roll-off flat cars. The trains would need to run frequently to be an attractive alternative to driving Route 31/202 for truckers. The rail distance is 25 miles, which would take 30 minutes at 50 mph. The driving trip on Route 31 and Route 202 is 35 miles and takes 55 minutes off-peak. Reduction in fuel cost, driving time and driver stress may make it attractive to truckers and economically viable as an investment. The terminals at each end could be equipped with truck-rated chargers and hydrogen supply, overnight truck parking and food service. Trucks that use Route 206, Route 1 to Route 18, and other routes to and from the northeast may also find it attractive. This potential upgrade to their listed passenger train service re-establishment project should also be discussed with DVRPC.

Returning to the 2002 Route 31 Design Study, specific problems identified in the report that are still relevant today are as follows:

1. Rt. 31 divides the schools and library area to the west from the compact "walking village" of Pennington Borough to the east. Crossing Route 31 can be difficult and dangerous for pedestrians and cyclists, A safer crossing is needed for all and especially for students.
2. Delays of several cycles of the traffic lights on both Route 31 and West Delaware Avenue are experienced at peak hours - encouraging vehicles to seek alternate routes on local streets or County roads.
3. There is an opportunity to locate a new Pennington train station with parking on the east side of the landfill site, integrated with other developments on the site. Recent proposals called for a stop at the Merrill Lynch complex. If the landfill is reclaimed, it would be a good site.
4. Bicycles must compete for space with vehicles while waiting for signals and while riding across Route 31 on West Delaware.

The executive summary of the 2002 Route 31 Design Study report contained 19 general recommendations. The 5 that are still relevant to Pennington Borough today are summarized and edited here:

1. The priority should be to keep traffic on Route 31 rather than displacing it onto local or County roads.
2. Route 31 should not be a high-speed conduit for through traffic that cuts the community apart and requires screening and separation from the surrounding neighborhoods.
3. Prioritize improvement or elimination of dangerous conflicts in turning movements.
4. It is imperative to create a safe crossing at the Route 31 and West Delaware intersection for pedestrians, bicycles, scooters, skateboards, etc. In 2002, there was much interest in the community in exploring either an aesthetically designed overpass or an underpass if it could be well lit, safe and deal with drainage problems at this low point intersection.
5. The Borough should link the Lawrence Hopewell Trail to Main Street. Facilities for safe and convenient bicycle parking should be provided to enhance commercial vitality in Pennington. Continuing the link along West Delaware Avenue and across Route 31 would help emphasize a unified center stretching to the schools.

It should be noted that 5 recommendations from the 2002 Route 31 Design Study report have been acted on, including those in Hopewell Township that have an impact on Borough residents:

1. The intersection of Route 31 and West Delaware Avenue now has left turn lanes in all four directions and left turn traffic lights. The lights also allow pedestrian crossings, although there is still a risk of pedestrian conflict with cars turning left or right on a green light.
2. The speed limit in the Pennington Borough section of Route 31 is 35 mph.
3. The intersection of North Main Street and Route 31 now has pedestrian crossings controlled by traffic lights.
4. A concrete sidewalk now runs along the east side of Route 31 from the Pennington Golf Center north to West Franklin Avenue. There is no sidewalk on the west side of Route 31.
5. A full traffic light will be installed at the intersection of Ingleside Avenue and Route 31. The Great Western Bike Trail proposed recently by Mercer County makes a safe crossing of Route 31 at Ingleside Avenue essential.

The 2002 Route 31 Design Study report suggested that Hopewell Township and Pennington Borough should consider commissioning their own study of future transportation/land use growth for the New Jersey Route 31 corridor. This idea may be worth reviving in view of current congestion and safety concerns.

The Economic Development Commission is concerned that the only current avenues for pedestrians, hikers, and cyclists to move between Town Center and Route 31 are the West Delaware Avenue bridge and the underpass on Broemel. Neither of these routes currently are pedestrian friendly, much less pleasant or encouraging. Residents also report it is difficult crossing West Delaware once one is west of Burd Street. These dis-incentives to non-vehicular movement are compounded for the large number of people (and potential business customers) seeking to cross Route 31 to travel to and from the HVRSD Campus. The Economic Development Plan offers possible solutions to this concern:

- i. The West Delaware and Broemel railroad crossings need to be improved, making them more welcoming to pedestrians and better lit.

- ii. Redevelopment of the former “Landfill” area, as well as the former Senior Center property at the north end of Reading Avenue, should facilitate and encourage the creation of coordinated streetscapes and new, green, encouraging means for pedestrians and cyclists to move between the Town Center and residential areas, and the Route 31 Corridor, coordinating with the Pennington School and freight railroad as necessary.
- iii. Plans to redevelop the Landfill and potentially rezone and redevelop properties at the intersection of Rt. 31 and West Delaware Avenue, and to enhance storm water management proximate to that intersection, should be leveraged to create improved means for pedestrians to cross Route 31. This improvement would be a significant boost to businesses along Route 31, West Delaware Avenue, in the Landfill property, and even in Town Center, by connecting them to the large high school and middle school constituencies.

4. Complete & Green Streets and Vision Zero

Pennington Borough adopted a customized version of the NJDOT Complete & Green Streets policy in 2016. New Jersey has been recognized as a national leader for advancing Complete Streets, which promote safety for pedestrians, bicyclists and other users of New Jersey roadways. NJDOT adoption of a Complete Streets policy in December 2009 made New Jersey one of the first ten states in the nation to make Complete Streets an official internal policy. Mercer County adopted a Complete Streets policy in 2012 and incorporated it into its Mobility Plan Element as revised in 2016 (see Section 8c).

The NJDOT policy requires that future roadway improvement projects include safe accommodation for all users, including bicyclists, pedestrians, transit riders and the mobility impaired. Roads should be built to safely accommodate a variety of transportation modes and users of all ages and abilities. Complete & Green Streets are planned, designed, and constructed to blend with the local community, while meeting transportation needs.

Complete & Green Streets improve safety by providing pedestrians, bicyclists, and drivers with adequate facilities and by reducing travel speeds so that all users can safely use the streets together. Complete Streets improve mobility and accessibility by enhancing the quality and availability of the connections between residences, schools, parks, public transportation, offices, and retail destinations. A walkable community improves overall quality of life by creating an environment where people are encouraged to interact and develop a sense of community.

A review of safety research by the Federal Highway Administration (FHWA) found that a variety of facilities commonly found in Complete & Green Streets design (e.g., marked crosswalks, raised medians, pedestrian refuge islands, traffic control devices, careful bus stop placement, safe routes to school, traffic-calming measures, continuous sidewalks, and walkways, etc.) can serve as efficient countermeasures to pedestrian accidents. Bicyclists and other low-speed vehicle users also benefit from Complete & Green Streets due to slower traffic speeds and the provision of low-speed vehicle-friendly facilities. The benefits of Green Streets also come from the use of green infrastructure (e.g., street trees, rain gardens, permeable pavement, etc.) to manage stormwater and reduce flooding.

The NJDOT Complete & Green Streets program falls under the NJFIT (NJ Future in Transportation) initiative. A complete description of the Complete & Green Streets model policy, along with model resolutions and model ordinances can be found in:

https://www.nj.gov/transportation/eng/completestreets/pdf/CS_Model_Policy_2020.pdf .

A Complete & Green Streets policy includes several elements; traffic calming, streetscaping, sidewalk plan and pedestrian mobility, and bicycle and other low-speed vehicle paths:

a. Traffic Calming and Streetscaping

Traffic calming strategies and techniques are important for enhancing the safety of pedestrians and users of bicycles and other low-speed vehicles by controlling traffic speed and increasing awareness of other road users. They help to maintain the residential character of Borough streets and can provide clearly marked pedestrian access routes between residential neighborhoods and local facilities, including schools, shops, recreational facilities, and open space outside the Borough. The Borough has initiated the use of roadway modifications such as “chokers” that reduce the width of the cartway at pedestrian crossings. Other modifications such as raised crosswalks and speed bumps should be considered.

Street trees, especially with branches that overhang the street, can have a calming effect on traffic. The Shade Tree Committee should continue its work to maintain and replace trees lining Borough streets and should continue to work with the County to maintain and replace trees on County roads in the Borough. All streets in the Borough would benefit from a consistent tree maintenance policy. However, accommodating the road, parking spaces, sidewalks, and future bikeways within the right-of-way of Main Street and Delaware Avenue is a challenge that is made difficult by the location of the large trunks of older trees. The root systems of these trees can cause the sidewalk to become uneven and dangerous. In some cases, the trunks are so large that the sidewalk needs to be narrowed. As these large trees die or are removed, the location and eventual size of replacements should be considered as part of the design plan for mobility.

Street lighting, landscaping and furniture (streetscape) play a role in calming traffic and enhancing the pedestrian environment in the downtown area. New sidewalks, decorative streetlights, signs, and benches have been added in the past and this program of beautification should be continued. Enhanced lighting and walkability will support both residents and visitors, encouraging appreciation of the district’s historical assets.

Speed limits play a major role in traffic calming, especially when enforced as the police try to do in Pennington. The speed limit in the Borough is 25 mph with one exception, Green Street, which is 30 mph. It is the only street in town with a higher speed limit, even though it is bounded by a Pennington School playing field used recreationally by children of all ages. The start of the 25-mph limit on South Main Street northbound is marked but the sign is partially hidden by a tree branch. The location of the change from 25 to 35 mph going south on South Main Street towards the Circle is unclear as there is no sign on the opposite side of the road from the northbound 25 mph sign. The Borough boundary is just south of Vannoy Avenue, so that is where the 25 mph to 35 mph likely takes place. This should be clearly marked.

The Borough should consider adopting a uniform 25 mph zone with clear zone markings at every gateway. The signage could be modeled on the growing number of “20 mph zones” in the UK, but in Pennington’s case would be 25 mph. These often have colored markings and symbols on the roadway in addition to clear signs on both sides of the road. UK regulations can be found in : https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/2733/setting-local-speed-limits.pdf .

The Borough should work with Hopewell Township to extend the zone markings and signs to all Township streets that can only be accessed through the Borough.

b. Pedestrian, Bicycle, and other Low-Speed Personal Mobility Routes

The Master Plans of several benchmarked communities cover sidewalks and bikeways separately but given the limited right-of-way space on local streets and County roads in the Borough, an integrated approach is needed. In some cases, the roadway itself will need to be shared. Bicycles are not for everyone so both sidewalks and bikeways need to accommodate a growing range of low-speed personal vehicles, including skateboards, scooters, e-bicycles, e-scooters, and e-skateboards (one, two or four wheels). These are frequently used by young people who are below driving age. Prioritizing pedestrian and low-speed vehicle mobility does not mean other vehicles are not important or considered; it means the Borough desires to be a place where safety, comfort, and livability for all ages and abilities is the utmost concern. Facilitating travel to and through the Borough by means other than conventional cars and trucks will contribute to the feeling of community.

To promote and encourage personal mobility, the Borough should:

- Design and develop a safe, convenient Borough-wide network of pathways and trails for pedestrians, bicycles, wheelchairs and other low-speed personal vehicles. Eliminate gaps in the current network that prevent a continuous route to destinations such as schools, businesses, churches, recreational facilities, parks, and open space outside the Borough.
- Indicate clearly which roads are part of the share-the-road programs in the above network through highly visible signage and road surface markers. However, the use of “sharrows” marking has become controversial due to the lack of understanding by drivers of the concept. See: <https://www.bicycling.com/news/a20044419/what-are-sharrows-used-for/> for more information.
- Designate safe walking, bicycling and low-speed personal vehicle routes to schools, which will benefit children and their parents alike by inculcating healthy habits and independence for the students and reducing the need for parents to chauffeur their children to and from the school and other destinations around town.
- Ensure that the network of pathways is well-maintained and kept clear of brush leaves, and snow and that overhanging shrubbery and trees are trimmed and maintained for the safety of users.
- Provide safe and ADA-compliant crosswalks crossings at roadway intersections or intermediary points where appropriate, especially on routes to schools. Crosswalks should incorporate contemporary best practices, e.g., warning lights, Rectangular Rapid Flashing Beacons [RRFB] to maximize safety for pedestrian and bike/personal mobility.

- Encourage walking and alternate vehicle use for local trips to mitigate roadway congestion and parking demand issues in the downtown core.
- Educate pedestrians, bicyclists, motorists, and other users about the rights and responsibilities of those using Borough roads and other pathways safely. Promote mutual respect among all roadway users through education, enforcement, and encouragement.
- Provide street furniture appropriate to pedestrian and bicyclist needs.
- Develop a downtown bicycle parking plan with appropriate zoning standards.

It is the policy of the previous Borough Master Plan that high volume streets have sidewalks on both sides and that low volume streets, such as cul-de-sacs, loop, and other non-through streets have sidewalks on at least one side, where consistent with potential usage, available right-of-way, environmental concerns, and engineering constraints. This policy is continued in this Plan.

The Circulation/Sidewalk Plan map in the 1998 Master Plan shows the location of all existing and proposed sidewalks and bikeways in the Borough as of 1998. This map should be updated and should show where sidewalks/bikeways and crosswalks could be constructed as funding permits. Priority should be given to the completion of missing links in existing sidewalks and to connecting sidewalks to existing or planned open space pathways.

Ideally the sidewalk on the north side of East Delaware Avenue should be extended to connect to the Lawrence Hopewell Trail extension at the Stony Brook bridge, giving access to Rosedale Park, Mercer Meadows, the Watershed Institute and the Mount Rose Preserve. However, the high bank on the northwest side of East Delaware Avenue leading to the bridge makes this difficult. An alternative proposal from the Open Space and Recreation Plan element is the “Stony Brook-Presidential Hill Connector.” This connector would link the LHT Pennington Connector with the Pennington neighborhoods south and west of East Delaware Ave. It would consist of:

- A crosswalk across East Delaware Avenue at its intersection with King George Road.
- A new bicycle-capable trail along the southeast side of East Delaware Avenue from Stony Brook to the intersection of East Delaware Avenue and Federal City Road. This can be an off-road trail because the land is owned by the County.
- A crosswalk across Federal City Road at that intersection to the fire road access to Presidential Hill.
- Surfacing the fire road up to Madison Avenue, from which cyclists and pedestrians can safely use neighborhood streets to the southeast quadrant of Pennington.
- Extending the sidewalk on the south side of East Delaware Avenue to the Federal City Road crosswalk to give access to the LHT from the center of Pennington.

The recently replaced railroad bridge on North Main Street does not have a protected path for pedestrians, bicyclists and other users. It is narrow and entering the bridge from either direction has blind corners due to the sharp curve. The Borough and Hopewell Township should consider installing a footbridge over the railroad at the side of the road bridge using the existing piers from the previous road bridge. This should be tied into sidewalks leading to the Route 31 pedestrian crossing at the traffic light.

The Greater Mercer Transportation Management Association (GMTMA) published its Greater Mercer Trails Plan in November 2019, see: <https://gmtma.org/wp->

content/uploads/2020/02/gmtn_report_final_updated_print-v2-1.pdf . This report is a valuable resource on existing trails and future trail plans. Chapter One summarizes engagement and collaboration efforts to understand and evaluate vision, goals, and priorities. Chapter Two establishes the region’s baseline conditions and context, and defines mobility and safety needs, existing barriers and constraints, and opportunities for improvement. Chapter Three presents the Framework Plan with hundreds of proposed individual actions to improve multimodal mobility and safety. Chapter Four documents the prioritization methodology and Implementation Matrix of proposed improvements.

A recent addition to the Mercer County Master Plan is the 2020 Bicycle Master Plan <https://www.mercercounty.org/home/showpublisheddocument/19206/637352618600000000> .

The New Jersey Bicycle and Pedestrian Master Plan describes initiatives to promote walking and bicycling by providing technical and financial aid. The Borough should consult this plan as it designs and implements its network of pathways. See:

<https://www.nj.gov/transportation/commuter/bike/pdf/bikepedmasterplanexecsumm2016.pdf#:~:text=The%20New%20Jersey%20Bicycle%20and%20Pedestrian%20Master%20Plan,are%20route%2C%20convenient%2C%20and%20secure%20throughout%20the%20state> .

It recommends that sidewalk and bikeway improvements should be implemented when:

- Roads are due for resurfacing or other routine maintenance
- Grants or other funding is available
- Programs are developed that support a walking and bicycle friendly community and encourage more people to walk or bicycle as a means of daily transportation.

c. Borough Roadway Improvements

In addition to recommendations specific to Route 31 detailed in Section 3, there are improvements that should be considered for Borough streets and County roads:

- The recent realignment and traffic signal timing at the intersection of Main Street and Delaware Avenue has created multi-light-change delays for traffic on Main Street in peak periods. The delays are due to traffic turning left onto East or West Delaware Avenue being prevented from turning by oncoming traffic on both South and North Main Street. The consequence is that many drivers bypass the intersection using Abey Drive and Eglantine Avenue. One fix is to create divided light timing for Main Street traffic as is done for Delaware Avenue traffic. Another is to create a left turn lane on northbound Main Street so that straight ahead and right-turn traffic can proceed without waiting for left-turning cars. This problem is acute for northbound traffic on South Main Street at peak periods and is exacerbated by the (necessary) traffic light hold for pedestrians to cross.
- The bridge replacement planned by Mercer County over Stony Brook on Pennington to Rocky Hill Road should be designed and built to accommodate safe bicyclist and pedestrian crossing of Stony Brook on both sides of the road. It is the sole connector between Pennington Borough and the Lawrence Hopewell Trail (LHT).
- The flooding experienced during tropical storm Ida in 2021 and Debby in 2024 on Abey Drive, Broemel Place, Knowles Street, Eglantine Avenue and North Main Street should be investigated and corrected.

5. Parking

Anecdotally, it is thought that parking in the Town Center is insufficient to meet the needs of local businesses. The Economic Development Commission should survey local businesses to quantify the issue. How many more spaces are needed and what is the range of parking times that are needed? There are all-day needs for employees, and shorter stays for customers. There are also the long-term needs of residents who live above businesses, or in nearby residences. The EDC should also determine if lack of parking is an impediment to businesses starting up in the Town Center and if so, how much more public or on-street parking is needed to satisfy them. Parking solutions proposed within the district should prioritize compatibility with its historic setting.

Once this data is available, the Borough can look for creative ways to increase the available parking, if it is needed. Options include allowing owners of parking areas with spare capacity, such as businesses, churches, and schools to charge for parking using an app-based phone system. It would likely be necessary for a single app-system to be selected for ease of use by residents. The app can be programmed so that owners can restrict parking when their own users need it. Would Pennington School allow the creation of a pervious gravel parking area on part of the field behind Borough Hall? Another option is to convert the back lots of properties on the west side of South Main Street between Sumo Sushi and the Methodist Church to a Borough parking lot. Most of these buildings are commercial and access from parking at the rear would be a benefit. The land could be purchased or leased for a tax break on the land portion used for parking. From Google Earth, the area is estimated to be 70 x 250 feet, which is sufficient for about 50 cars in two rows. (Thanks to Zoning Officer John Flemming for this suggestion).

On Main Street and Delaware Avenue, there are traffic conflicts caused by residential parking when bicycles and other personal vehicles need to move out into the main traffic lanes to pass the parked vehicles. It is easy to just say the personal vehicle users should use streets that are not as busy, but most choose to take the shortest route, which often is these two roads. Given the limited space in the right-of-way, few options are available. One would be the use of sharrows markings together with enforcement of the speed limit. Other options should be sought. A similar concern for bicyclists and personal vehicle users arises when contractors or delivery vehicles park on these main roads. Perhaps sharrows marking should be considered for the full length of both roads where dedicated small vehicle lanes are not possible.

6. Zero-GHG-Emission Vehicles

An essential contribution to mitigating the effects of climate change is to limit the emission of greenhouse gases from human activity. Recognizing that cities and states throughout the U.S. are adopting greenhouse gas emission reduction targets and strategies, Pennington Borough Council resolved in Resolution 2021-3.4 that:

1. The Environmental Commission will be responsible for reporting to Council on an annual basis the amount of carbon released by the Borough and the amount of carbon offset.

2. The Environmental Commission will assist the Borough in developing strategies to migrate away from carbon energy sources.
3. Pennington Borough will become Carbon Neutral in all of its operations by 2035.
4. The Environmental Commission will use the Borough's efforts to become carbon neutral as a way to educate and encourage Borough residents and businesses to become carbon neutral.

In response to item 4, the Environmental Commission, with Council approval, will develop a Community Energy Plan following a template developed by Sustainable Jersey under a grant from the New Jersey Clean Energy Program (NJCEP). The template lists seven strategies, the first of which is to reduce energy consumption and emissions from the transportation sector. The transportation strategy contains the following elements:

1. Adopt supportive zoning and regulations for EV infrastructure.
2. Install public chargers and encourage workplace EV charging infrastructure.
3. Improve municipal fleet efficiency and purchase alternative fuel vehicles.
4. Train first responders and non-emergency staff on EVs and charging equipment.

If Borough residents converted to EVs, it is possible to reduce the Borough's annual CO_{2e} (carbon dioxide equivalent) emissions by over 7,000 metric tons per year, 2.5 tons per year per resident. This is 25 times larger than the reduction of 276 tons that can be achieved by making all municipal operations carbon neutral. See Appendix C for details.

It should be noted that there are two other zero-GHG emissions technologies that are competing with battery-electric vehicles. Both are based on green hydrogen, which can be produced by electrolysis of water using solar or wind electric power generated in excess of grid demand. The first hydrogen technology is the fuel cell, which uses electrochemistry to combine hydrogen with oxygen from the atmosphere to generate electricity and water. The electricity produced will charge a battery and drive an electric motor. The second technology uses hydrogen directly in an internal combustion engine, which could be either a piston engine or a gas turbine. Hydrogen is under test for use in buses, trucks, and rail. These contribute about 25% of the CO_{2e} emissions, or about 10 MMT CO_{2e} in New Jersey. Whilst Pennington is not home to many trucks or buses, hydrogen filling stations should be considered along with EV battery charging on Route 31.

Two issues being addressed by the EV industry are increasing the energy storage density of batteries to increase range, and battery recharging time. To compare EV to gasoline charging times, the 10 gallons needed for a range of 300 miles with the 30-mpg car takes about a minute to pump at a gas station. For the EV average 2.9 kWh/mile, a charge of 103 (300/2.9) kWh is needed. Appendix C calculates the time needed to deliver 103 kWh for each of the three classes of EV charger:

- Home Level 1 Charger: 120V 20A = 43 hours per 300 miles range
- Home Level 2 Charger: 240V 40A = 11 hours per 300 miles range
- Commercial Level 3, NJ: 480V 310A = 40 minutes per 300 miles range
- Commercial Level 3, max: 480V 730A = 18 minutes per 300 miles range

The actual charging time depends on the EV's battery control system, so times may be longer. Also, the total number of Level 3 charges during the lifetime of an EV battery may be limited

due to the high electric current. The analysis tells us that a 120 V Level home charger would only give a range of about 80 miles after an overnight 12-hour charge. This may be sufficient if all car use is local and infrequent, but for many users, a Level 2 charger is needed.

There are currently some financial incentives for Level 1 and Level 2 charger installations in New Jersey. Details can be found on the DEP website <https://dep.nj.gov/drivegreen>. PSE&G, which serves Pennington Borough, has an Electric Vehicle (EV) Charging Program to support the deployment of residential, mixed-use (commercial), and public Direct Current Fast Charging (DCFC) electric vehicle chargers for a broad range of customers.

A development that is gaining traction is the concept of bidirectional charging. This comes in various forms, vehicle to grid (V2G), vehicle to home (V2H), vehicle to load (V2L), vehicle to vehicle (V2V) and vehicle to everything (VTX). V2G allows utility companies to use EV batteries as a supplemental storage capacity for the grid. Electronic control and smart meters can balance energy withdrawals from car batteries to meet high demand, while charging to meet the anticipated needs of drivers. Avoiding charging in periods of high demand and high cost and promoting off-peak charging at a reduced cost provide economic incentives to V2G EV owners. V2H allows a car battery to be used in place of a fossil-fueled generator to provide power to a home during power outages. It can also be used to replace high-cost, peak demand electricity for powering a home with power from the EV battery and recharging the EV when the grid cost drops. This too will need a smart meter and support from the utility. Pennington Borough should canvas PSE&G for this capability for its residents. V2L allows camping and outdoors equipment to be powered from the EV battery and could be of value to contractors working in remote locations. In both cases it could replace gasoline-powered generators. V2V allows the transfer of charge from one vehicle to another and could help those who run out of charge on the road. V2X does not yet exist but is proposed.

Amendments to the Municipal Land Use Law adopted in August of 2021 included many provisions specific to the installation of electric vehicle supply equipment. The details can be found in the 2023 Pennington Borough Master Plan Reexamination report, Section C8, Electric Vehicles.

The landscape for personal EVs is changing dramatically. All major domestic and foreign automobile manufacturers have EVs in their portfolio and there is significant growth in the industry. Tariffs have been imposed and proposed to protect domestic manufacturers in many countries, including the US. There is tremendous academic and commercial innovation on EV drive train design and batteries, and the market is continually changing. Competition is fierce and prices are dropping, while quality, reliability and vehicle capabilities are improving. Some states are introducing regulations to limit or eliminate the sale of new fossil fueled cars by a certain date. New Jersey has set 2035 as the last year for the sale of new fossil fueled cars and light trucks, which necessitates the installation of charging stations in homes and public places soon.

Commercial charging stations in the country are becoming profitable as the number of EVs increases, and private investment is taking the place of state-led initiatives. Energy companies such as BP (BP Pulse) and Shell (Shell Recharge) are dedicating forecourt space at gas stations to Level 3 fast chargers, as well as installing standalone charging locations. ExxonMobil has not

yet shown signs of interest, but the Exxon gas station at Route 31 and West Delaware may be an option for fast chargers in Pennington. There is a move to harmonize the charging infrastructure so that EVs from different manufacturers will be able to recharge at any charging station.

There is also a need to increase the capacity and robustness of the grid to supply the electricity needed for the growing EV fleet, both personal and commercial, and for the switch to electricity for many domestic and commercial applications. Pennington Borough can only advocate in support of this. Without it, the grid is in danger of becoming unstable in periods of high demand.

A final area to consider is safety. It is generally considered to be safe to charge an EV in an attached garage at home if the charger is installed correctly, used correctly, and maintained periodically. Installation is covered by the NJ Uniform Construction code. The Borough should ensure that EMS and Fire Department volunteers and professionals receive training and the correct equipment to deal with EVs involved in accidents. Guidance should be offered to Public Works staff in case they have problems with the Borough's EV fleet or are the first to arrive at an accident scene and offer help. Similar guidance could also be offered to residents.

The Borough needs to be flexible and nimble with regulations to keep up with rapid developments in the EV field. We should consider allowing EV repair and maintenance facilities to locate in the Borough as these would have minimal impact on the environment and would be good business opportunities. We should educate our residents that as the EV fleet grows, it will be necessary for the state to charge EV owners annually to pay for roads as revenue from the gas tax declines.

7. Public Transit

The Greater Mercer Transportation Management Association (GMTMA) was established in 1984, and consists of large and small employers, local governments, authorities and state agencies who share a commitment to providing transportation choices that are good for commuters, good for business and good for the environment. Their website <https://gmtma.org> has links to a variety of publications, and lists the following services:

- Employers; Programs and Services, NJ Smart Workplaces, Rideshare
- Property Managers; Transportation, Good Moves, Biking
- Seniors Senior Programs; RideProvide, Travel Training
- Schools; Safe Routes to School, Walking School Bus, School Pool
- Commuters; Bus and Train Services, Commuter Tax Benefit, Biking
- Community; Educational Programs, Street Smart, Mobility Guide

Pennington Borough should ensure that residents and businesses are aware of GMTMA services and take advantage of them.

GMTMA annually publishes a Mobility Guide for Mercer County. The 2024 edition includes the following topics; How to ride an NJ Transit bus and the NJ Transit Access Link; How to ride the train (NJ Transit, SEPTA and Amtrak); Taking bikes on transit; Biking and Walking in Mercer County; and how to get to popular destinations in Mercer County by public transit. It gives links to timetables, transportation company websites and apps. Under community transportation, it

covers the following options available to Pennington residents, Mercer County T.R.A.D.E., Hopewell Valley Rides, RideProvide, and Medicaid transportation provided by Modivcare.

Services provided by GMTMA to communities include education programs; Clean Air Out There (air quality education program), Bike Safety, Pedestrian Safety, Walking for Health and Happiness (senior mobility and safety), and Travel Training (instruction for inexperienced transit users on how to use public transit in Mercer County). Community services include setting up Walking School Bus routes under the Safe Routes to School program, and Walkability Audits to identify concerns for pedestrians related to the safety, access, comfort and convenience of the walking environment and to help identify potential solutions such as engineering treatments, policy changes or education and enforcement measures. Pennington Borough should take advantage of these services. GMTMA will also set up a table covering transportation options at a community fair and we should consider this for Pennington Day.

Public transit works well in dense urban locations but less so in suburban and rural communities. It is successful when buses or subways are frequent enough that a timetable does not need to be consulted, which is only cost-effective in urban locations. From Pennington, personal cars are the common choice for short and medium length trips. For longer trips by train or plane, driving to a station or airport is preferred. Public transit may be chosen when the cost of parking is sufficiently high (e.g. Newark Airport). Alternatively, ride services such as Uber, Lyft, taxi or limousine may be used.

The Borough should conduct a survey to determine where people travel and under what circumstances they would choose public transport and what type of services they would use. With this data, collaboration on regional transportation initiatives with the Delaware Valley Regional Planning Commission, Hopewell Township, Mercer County and the State will be possible. Below is a summary of current public transit options serving Pennington.

a. Bus Route

The Borough is currently served by NJ Transit Bus route 624, which runs between Pennington and Plum St. at Enterprise Avenue in East Trenton via the Trenton Transit Center. There are 17 services on weekdays running hourly from Pennington from 5:20 am to 8:20 pm with a late bus at 9:50 pm, and 6 services on Saturdays, every two hours between 8:00 am to 6:00 pm. Holiday services are as for Saturdays with the addition of a 6:00 am bus. There is no service on Sundays. Buses circulate with return service from Trenton to Pennington after a waiting time of about 15 minutes at Plum Street. The waiting time at Broemel Place in Pennington is about 40 minutes.

At the Trenton Transit Center, about a 40-minute ride from Pennington, passengers can connect to the train services of Amtrak, NJ Transit, SEPTA and the River Line. It would probably be used more often to connect with trains if services were more frequent, such as every half hour, and extended to later hours and if services on Saturday and Sunday were the same as for weekdays. Parking at Trenton station is \$20 per day, and the bus would be an economical and convenient option. It would also be more practical if some of the 40-minute waiting time in Pennington was instead used to pick up passengers in the northern section of Pennington, with a route such as Broemel Place, Green Street, Franklin Avenue, Eglantine Avenue, King George

Road, East Delaware Avenue then turning left on South Main Street to join the current route. When people see the regular bus service, they may be more inclined to use it. There are multiple bus stops in town that do not have shelters, which does not promote usage of the bus. NJ Transit will arrange for, and bear the cost of, installing bus shelters at bus stops established by municipal resolution provided that a local sponsor, public or private, will agree to accept responsibility for maintenance and liability.

b. Mercer County T.R.A.D.E.

Mercer County T.R.A.D.E. (Transportation Resources to Aid the Disadvantaged and Elderly) provides transportation services to Mercer County residents who are senior citizens (60+) or people with disabilities or are economically disadvantaged. Trips are either by subscription or on demand as needed and reservations must be made in advance by phone. Trips are free but there is a \$1.00 suggested donation. This service should be promoted within the Borough.

<https://www.mercercounty.org/departments/transportation-and-infrastructure/t-r-a-d-e>

c. Hopewell Valley Rides

Hopewell Valley Rides is a transportation service offered by Hopewell Township. It is available to residents aged 60+ and adults with disabilities within Hopewell Valley (Pennington, Hopewell Borough, Hopewell Twp.) Wheelchair accessible service is available. Rides are provided by car through the RideProvide program. After registering, eligible residents can purchase vouchers for \$5 per one-way trip. Rides can be requested by calling RideProvide 48 hours in advance to ensure availability. Rides are available from 8:00 am to 5:00 pm Monday through Friday. Free trips are provided to and from Princeton Healthcare System facilities and RWJ Hospital and other select facilities. A brochure on the service can be found at:

<https://www.hopewelltpw.org/DocumentCenter/View/129/Hopewell-Valley-Rides-Brochure-PDF>

d. Passenger Rail

Train services are not available from Pennington. Services to Philadelphia and beyond can be accessed via train stations at Trenton and West Trenton, and to Newark and beyond from Trenton and Hamilton. Long-distance services are provided by Amtrak, local services by NJ Transit and SEPTA.

The re-establishment of passenger service on the CSX line from West Trenton to Bridgewater (and on to Newark) is listed on the Delaware Valley Regional Planning Commission's Table of Major Regional Projects (<https://www.dvrpc.org/webmaps/mrp2050/#page2>). It is shown as an illustrative project under Transit Expansion that needs to occur in the next 25 years but has not yet been moved into the Transportation Improvement Program (TIP). It is also shown on the DVRPC map of projects <https://www.dvrpc.org/webmaps/mrp2050/#map>. Since DVRPC only covers Mercer County, it only mentions future stations near I-295 in Hopewell Township and in Hopewell Borough, but it is likely to include one or more stations in Somerset County. The table shows a cost estimate of ~\$700 million. If the Pennington landfill is reclaimed, it could be a

preferred site for a station over the Merrill Lynch site near I-295. This idea should be communicated to the DVRPC for consideration along with the truck-train idea in Section 3.

An interesting discussion on the history and issues of the West Trenton to Bound Brook and Bridgewater rail line can be found online in <https://railroad.net/reviving-passenger-service-between-west-trenton-bound-brook-t8100-270.html> . Passenger trains last ran on this line in 1981 and there was no stop in Pennington. One downside to consider would be the negative reaction to the noise of additional trains from those living close to the line. CSX may also resist this change because the overhead electric catenary does not provide enough clearance for their double-decker freight trains. The SEPTA and CSX tracks south from West Trenton were separated recently for this reason. However, two-way scheduling should be easier for CSX with a return to double track and CSX could run the truck trains for profit.

In 2001, a Transportation Subcommittee of the Hopewell Borough Planning Board conducted a Hopewell Borough-wide survey to determine if the community was in favor of this reactivation. The survey results were presented in the 2007 Hopewell Borough Master Plan. The results of the 272 surveys returned showed that the Borough was almost evenly divided on the question (49% want no rail stop in the Borough and 46% are in favor of a rail stop in the Borough). The number one reason given by those opposing the stop was increased traffic congestion while the top reason provided by those in favor of a stop was convenience. A new survey, including residents of Pennington and Hopewell Township, and in Somerset County, should be conducted, possibly through the GMTMA or DVRPC.

8. Relationship with Regional Transportation Plans

a. Delaware Valley Regional Planning Commission (DVRPC)

DVRPC is the federally designated Metropolitan Planning Organization (MPO) for the Greater Philadelphia region, established by an Interstate Compact between the Commonwealth of Pennsylvania and the State of New Jersey. Pennsylvania members are Bucks, Chester, Delaware, Montgomery, and Philadelphia counties, plus the City of Chester. New Jersey members are Burlington, Camden, Gloucester, and Mercer counties, plus the cities of Camden and Trenton. DVRPC serves strictly as an advisory agency. Any planning or design concepts as prepared by DVRPC are conceptual and will require engineering design and feasibility analysis. Actual authority for carrying out any planning proposals rests solely with the governing bodies of the states, local governments or authorities that have the primary responsibility to own, manage or maintain any transportation facility.

DVRPC's vision for the Greater Philadelphia Region is a prosperous, innovative, equitable, resilient, and sustainable region that increases mobility choices by investing in a safe and modern transportation system; that protects and preserves our natural resources while creating healthy communities; and that fosters greater opportunities for all. DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. They are engaged across the region, and strive to be leaders and innovators, exploring new ideas and creating best practices. DVRPC provides services to member governments and

others through planning analysis, data collection, and mapping services. Aerial photographs, maps and a variety of DVRPC publications are available to the public. The DVRPC traffic count data was used in the analysis in Appendix A, as discussed in Sections 1 and 3 above and the DVRPC emissions report results are mentioned in Section 6.

As an MPO, DVRPC conducts the regional Congestion Management Program in accordance with Federal guidelines. Its latest report was in 2023, <https://www.dvrpc.org/reports/24135.pdf> and the current recommendations for Pennington Borough are discussed in Section 3 above. DVRPC's current strategic plan, Connections 2050, was approved in 2021 and is currently being updated. Details of the process can be found on <https://www.dvrpc.org/plan/>. Public input is being sought to update the strategic plan, and proposed projects will be considered under their weighted Benefits Criteria process for inclusion in the Transportation Improvement Program (TIP). An informative slide show on developing and implementing the TIP can be found on: <https://dvrpcgis.maps.arcgis.com/apps/Cascade/index.html?appid=725da42575294635b4deb8fd2eee953d>.

As a member of the DVRPC, Pennington is also a member of the Central Jersey Transportation Forum (CJTF) formed in 1999, <https://www.dvrpc.org/centraljerseytf/>, <https://centraljerseytf.org>. CJTF strives to integrate land use and transportation among municipal and county leaders at the border of two Metropolitan Planning Organizations in the Central Jersey area. Facilitated by the Delaware Valley Regional Planning Commission in coordination with the North Jersey Transportation Planning Authority and New Jersey Department of Transportation, this partnership has maintained progress toward coordinated land use and transportation planning and development, information sharing and collaboration, and the exchange of information and resources. continue this participation to gain technical assistance and influence regional transportation issues.

b. Hopewell Township Master Plan

Since all traffic entering and leaving Pennington Borough does so through Hopewell Township, the Circulation Plan element of the Township's Master Plan and this Mobility element should be largely in agreement on traffic management issues. In addition, since a much larger stretch of Route 31 is in Hopewell Township, any proposals for Route 31 will impact Pennington. The current version of the Township's Master Plan was adopted in May 2002. It can be found at <https://www.hopewelltp.org/DocumentCenter/View/856/Master-Plan-2002-PDF>. The Master Plan did not include a circulation plan element, but 12 transportation goals were presented, the first which was to develop a circulation plan. A Circulation Plan was adopted in March 2006: <https://www.hopewelltp.org/DocumentCenter/View/8613/Circulation-Plan-Element---Adopted-March-9-2006>. The Route 31 aspects of the Plan build off the recommendations in the 2002 Route 31 Design Study, discussed in Section 3 above. There was also a positive discussion on the merits of reestablishing passenger trains on the West Trenton line. At the time it was shown as an NJ Transit candidate project. A Master Plan reexamination report was adopted in December 2021: <https://www.hopewelltp.org/DocumentCenter/View/8410/2021-Periodic-Reexamination-of-the-Master-Plan-and-Development-Regulations-PDF>. The only additions to circulation in the reexamination report were related to the Lawrence Hopewell Trail.

c. Mercer County Master Plan

The Mercer County Master Plan was adopted in September 2010 and amended in May 2016. The Master Plan and associated plan elements were developed after three public meetings held in 2006/7, resulting in a Regional Action Plan (RAP). The framework document can be found at: <https://www.mercercounty.org/home/showpublisheddocument/1242/636058423221200000>

Mercer County’s vision for balanced growth throughout the county focuses on four outcomes, two of which concern transportation:

- Adequate level of housing choice and affordability that makes it possible for residents to live in the county throughout their lives.
- Adequate transportation and housing choice to maintain an educated workforce and a stable economy.
- Enhanced core transportation corridors through the implementation of access management, connectivity, and wise land use decisions.
- Continued strategic investment in open space and recreational facilities so that residents and employees enjoy enhanced quality of life in the county.

The Master Plan is divided into three sections; economy, transportation and environment. Under transportation, the key findings from the RAP meetings were

1. Commute times continue to increase.
2. People live further from their jobs or are commuting on congested roads.
3. The automobile continues to dominate personal transportation while public transit usage remains limited.
4. Land use patterns contribute to roadway congestion, auto dependency, and demand for public transit.

Key goals identified were

1. Enhance travel options.
2. Encourage land uses to support transit.
3. Improve social equity in access and mobility.
4. Manage congestion.

The following introduction to Transportation Policies and Strategies is taken directly from the Master Plan Framework document:

“Mercer County is closely linked to a growing global economy through its transportation network. The variety of existing transportation options in the county contribute to residents’ quality of life. The county will continue to invest and maintain investments in existing roads, bridges, and airports, and strategically invest in future public transportation projects in order to move people efficiently to and from destinations within the county and beyond to support regional economies.

With aging infrastructure and the increasing costs associated with construction of new roads and bridges, there is an increasing opportunity to improve roadway capacity on existing roads

especially where they service redevelopment and new development resulting in centralized land use patterns.

The availability and accessibility of a variety of transportation options for residents and workers in the county, including site conditions that encourage pedestrian activity, is a critical element to successful, sustainable mixed-income housing development. Planning for denser housing near transit service not only reduces roadway congestion but also addresses social equity objectives by providing mobility and access for population segments with no access or limited access to automobiles and for those populations who have no desire for an auto-dependent lifestyle.

Recognizing that not all workers will live where they work, transportation policy encourages expansion of existing public transportation capacity and roadway improvements that support commuters and appropriately direct freight movement through the county to surrounding metropolitan areas. County input on the effect of state and federal road improvements, especially those directly connecting the surrounding metropolitan areas of Philadelphia and New York City, on county travel patterns will continue to be needed as capital investments are made in the future to support economic growth statewide.”

Policies developed for transportation are as follows.

1. Direct growth to transit corridors and centers.
2. Promote compact design, walkable and mixed-use centers, that support transit.
3. Match jobs to housing to reduce long auto commutes to work.
4. Promote strategic capacity expansion to support compact development and multimodal options.
5. Promote county road access management to enhance safety and capacity.

Strategies associated with these policies may be found in the online Framework document.

The County Mobility Plan was also adopted in September 2010 and amended in May 2016:

<https://www.mercercounty.org/home/showpublisheddocument/1250/636058423231670000>

The County is working on an update to the Plan.

Section 4 of the Mobility Plan details policies and associated strategies. The policies are

1. Preserve existing transportation facilities.
2. Improve safety for all travelers.
3. Promote choice of travel mode.
4. Promote land uses that reduce reliance on automobiles.
5. Link transportation improvements to economic and environmental goals.

Strategies associated with these policies may be found in the online Mobility Plan document.

Observations from the County Mobility Plan of relevance to Pennington are as follows:

1. “Preserving the possibility of future connections is one of the most important functions of this mobility plan. Several connections in this plan are almost inconceivable today, either because of current environmental regulations or stakeholder opposition. Conditions of the moment, however, should not forever preclude the possibility of a sensible project. For a cautionary example, the de-designation of an interstate link between I-95 in Hopewell

Township and I-287 in Somerset County was hailed as a victory for preservationists in the 1970s. Today, the same groups rue the heavy truck traffic on US 206 and NJ 31 that the interstate link would have carried, and development has come anyway, filling in the proposed right of way. Seeking to avoid that fate, this plan identifies projects that may be highly desirable if conditions change.”

2. Route 31 is classed by NJ-DOT as a desirable typical section of 4 lanes on the Planned Projects Quadrant Map 5 in Appendix B. No proposed projects are shown for Route 31.
3. Under Policy 3, Promote choice of travel mode, Freight: Work with NJDOT, DVRPC, and municipalities to develop standard routes for freight vehicles, both through the county and to destinations within the county, including retail and commercial and industrial sites, distribution centers, and intermodal facilities.

d. New Jersey Department of Transportation (NJDOT) Long Range Transportation Plan

The current New Jersey mobility plan is the State Long-Range Transportation Plan (SLRTP), published in October 2008 with the title “Transportation Choices 2030”. It can be found at <https://www.nj.gov/transportation/works/njchoices/pdf/2030plan.pdf>. The goals of the plan are given in Section 5 and are reproduced here with the associated policies. Strategies for each policy can be found in Section 5 of the plan.

- 1) Maintain and renew transportation infrastructure
 - Fix it first
 - Fix it efficiently
 - Back to basics
- 2) Integrate transportation and land use planning
 - Champion smart growth
 - Create better "tools"
- 3) Increase safety and security
 - Make travel safer
 - Reduce risk
- 4) Improve mobility, accessibility, and reliability
 - Counter congestion with multimodal solutions
 - Improve connections
- 5) Operate efficiently
 - Reduce delay
 - Give customers choices
- 6) Respect the environment
 - Promote environmental stewardship
 - Enhance quality of life
- 7) Optimize freight movement
 - Increase freight system capacity and efficiency
 - Integrate freight into transportation and land use planning
 - Target investments in key freight hubs and corridors
- 8) Continue to improve agency effectiveness
 - Enhance interagency coordination
 - Improve customer satisfaction

- Deliver projects and services on time and within budget

The State is currently working on an updated plan “Keep It Moving NJ!” aimed at 2050. No release date for the plan has been given. NJDOT describes the plan as “a forward-thinking initiative to consider current challenges and anticipate future needs, ensuring that our transportation infrastructure remains robust and resilient. By developing this plan, we aim to create a sustainable and adaptable transportation network that promotes safety, reduces congestion, supports economic growth, and improves the overall well-being of our citizens for decades to come.” They are currently obtaining input from the public and the themes under consideration can be found in the first question of their online survey:

“NJDOT and NJ transit have proposed the following goals for New Jersey. Which three are most important to you?:

- 1) Maintenance
 - Keep our transportation infrastructure (roads, bridges and public transportation), facilities and equipment in good condition.
- 2) Eco-friendly
 - Promote a more environmentally friendly transportation system.
- 3) Effectiveness
 - Improve the effectiveness of transportation agencies.
- 4) Accessibility
 - Expand equitable access to jobs and services through transportation, especially in areas that do not have as many resources.
- 5) Resilience
 - Ensure that the transportation system can withstand climate change, extreme weather conditions and emergencies.
- 6) Partnership
 - Integrate transportation and land use planning
- 7) Safety
 - Enhance safety and reduce traffic deaths
- 8) Mobility
 - Make travel more accessible, easier, and reliable
- 9) Goods movement
 - Identify opportunities to move freight more efficiently
- 10) Efficiency
 - Operate the transportation system efficiently.”

In its Mobility Plan, Mercer County describes its relationship with NJDOT as follows:

“NJDOT is a primary partner with Mercer County for local project implementation through its local aid formula funding (state funds) for bridge and highway maintenance. NJDOT is also a very active participant in developing DVRPC's TIP, since most federal funding goes to projects on state-maintained interstates and federal highways. County participation and support for these projects is vital because federal and state highways are the primary links in the county's transportation network. This relationship is key to projects on State Route 31 in Pennington and Hopewell Township.

9. Relationship with Other Plan Elements in Master Plan 2025

The Mobility Plan impacts and is impacted by other Master Plan elements as follows:

Land Use Plan Element. This plan relates to the Borough's zoning and potential redevelopment areas. Mobility needs will be impacted by the Borough's development and redevelopment plans. Land required for suggested improvements in roads, sidewalks and trails will need to be incorporated in the Land Use Plan.

Housing Plan Element. The borough has identified areas of redevelopment which have the opportunity for high density housing, including affordable. The impact of these developments on highway access and increased traffic volume needs to be considered in the Mobility Plan. The Plan also should keep abreast of development in areas surrounding the Borough, which may have an impact on Borough traffic and require remediation.

Utilities Plan Element. The implementation and maintenance of many goals and strategies of the Mobility Plan will be the responsibility of the Department of Public Works. We need to be mindful of the capacity of the Department to do this work and build it into the Utilities Plan. The impact of Mobility projects on local taxes needs to be kept under control so we may retain the diverse age of population we have now instead of people moving away once their children are gone. The Municipal Stormwater Management Plan (MSWMP) is not part of the Master Plan but is referenced in the Utilities Plan. The goals of the MSWMP must be respected when considering mobility infrastructure changes. Improvements close to waterways or wetlands, such as bridge or culvert replacements, should include restoration of the natural systems in the scope of work, where appropriate. Heavy rainfall and flooding, damage from severe storms, and pollutant infiltration from road runoff may impact the operation of Borough utilities.

Economic Development Plan Element. This Plan considers all aspects of commerce and economic development in the Borough. Effective and diverse mobility options are an important piece of economic activity. Parking is critical and a balance of the needs of residents, employees and customers will need to be found. There is also an opportunity to reduce the amount of impervious coverage for parking by replacing it with pervious cover to improve groundwater replenishment and reduce flooding. Many such opportunities exist with business parking.

Open Space and Recreation Plan Element. This Plan makes recommendations on improving access to local recreation facilities and open spaces. These are mostly for cyclists and pedestrians and often require dedicated trails or road lanes. The Mobility Plan and the Open Space and Recreation Plan need to be consistent.

Conservation Plan Element. Conflicts between the Mobility Plan recommendations and the Conservation Plan need to be avoided. The Conservation Plan incorporates the Borough's Community Forestry Management Plan by reference and many of the Borough's trees grow on the rights-of-way of Borough and County Roads. The desire for shade trees and Mobility Plan

strategies for space for pedestrians, bicyclists and other personal vehicle users should be consistent.

Green Buildings and Environmental Sustainability Plan Element (GBESE). Several goals and strategies in the GBESE are aimed at reducing the Borough's contributions to climate change. Section D of the GBESE is Land Use and Mobility. The goals in this section and in the Mobility Plan should be consistent. The GBESE includes the Community Energy Plan under development and a significant part of that plan is focused on transportation energy use and greenhouse gas emissions. The goals of the Mobility Plan and the Community Energy plan must be consistent.

Historic Preservation Plan Element. The Pennington Historic Commission supports the aim to enhance mobility but underscores the need to integrate mobility enhancements with the preservation of the Borough's historic character. Improvements in pedestrian and bicycle infrastructure within and around the Historic District should align with Complete Streets policies, ensuring that new facilities respect the district's aesthetic while improving safety and connectivity. Parking solutions within the district should prioritize compatibility with its historic setting. Measures such as strategically placed EV charging stations must balance modern mobility needs with the preservation of historical integrity. Additionally, careful planning is required to address the potential impacts of increased traffic from regional developments, ensuring the Historic District remains accessible without compromising its charm or safety.

Revised

Appendix A. Traffic data in and around Pennington

The Delaware Valley Regional Planning Commission (DVRPC - <https://www.dvrpc.org>) presents traffic counts on its website. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia region, established by an Interstate Compact between the Commonwealth of Pennsylvania and the State of New Jersey. It includes Mercer County.

Regional traffic count data is available on <https://www.dvrpc.org/webmaps/trafficcounts/>. It can be searched by municipality or Zip Code. Traffic counts are reported as Annual Average Daily Traffic (AADT), which represents an estimate of all traffic during a 24-hour period at the location indicated for the year in which it was collected. AADT counts for roads in and around Pennington have been extracted from data for Zip Code 08534 and presented in Table A1. Traffic counts are a daily average based on counts taken over three to five days, depending on location. All counts were taken midweek. Counts are given in both directions for each road. The DVRPC count does not differentiate between cars and trucks. Such data would be useful. The month each count was taken is shown on the table. Most are between March 2022 and March 2024, which are post-Covid, but two sets were from March 2021 (North Main St. and Ingleside Ave. west of Van Noy) and one from June 2020 (West Delaware Avenue), which would be affected by Covid restrictions. The West Delaware Avenue count was taken June 16-18. The last day of school was June 17, so it only partially included school traffic.

The counts have been added to a schematic map of Pennington in Figure A1. Counts in and out of each junction do not sum exactly as they were done on different dates for different roads. However, a general picture of traffic flow in Pennington can be discerned. From 9,000 to 9,500 vehicles per day join Route 31 northbound from Pennington Circle. Of these, around 8,400 travel as far as the North Main Street intersection, meaning around 800 leave Route 31 for destinations likely on the west side of Pennington. About 900 vehicles join Route 31 from North Main Street. About 3,200 vehicles leave or join Route 31 on Pennington-Hopewell Road, representing traffic passing through Pennington on the way to Hopewell. Around 3,000 vehicles per day enter Pennington via Pennington Road from Pennington Circle. Most of these travel as far as the Main Street traffic lights at Delaware Avenue. About 3,300 vehicles per day pass in each direction on East Delaware Avenue heading to Pennington-Rocky Hill Road.

The DVRPC daily data is generated from hourly counts which allows the visualization of how traffic is distributed during the day. Figure A2 shows three examples: southbound Route 31, north of Pennington-Harbourton Road; westbound East Delaware Avenue, east of Main Street; and northbound South Main Street, north of Curlis Avenue. All show morning and afternoon peaks with lesser peaks around lunchtime. Peaks for Route 31 are just under 700 vehicles per hour, Delaware Avenue 300 per hour and northbound Main Street 250 cars per hour. We will explore with DVRPC the opportunity to gather additional data.

The New Jersey Office of Information Technology (NJOIT - data.nj.gov) also provides annual average daily traffic by location (county and municipality) and route. See: <https://data.nj.gov/Transportation/Annual-Average-Daily-Traffic-by-Location-and-Route/dfun-zupj>. Data was collected between 2016 to 2019. We chose to use the more recent DVRPC data.

Figure A1. DVRPC Annual Average Daily Traffic counts presented on a schematic map of Pennington

Annual Average Daily Traffic (AADT) is an estimate of all traffic during a 24-hour period at the location indicated for the year in which it was collected. AADT counts for roads in and around Pennington have been extracted from data for Zip Code 08534 and presented in Table A1.

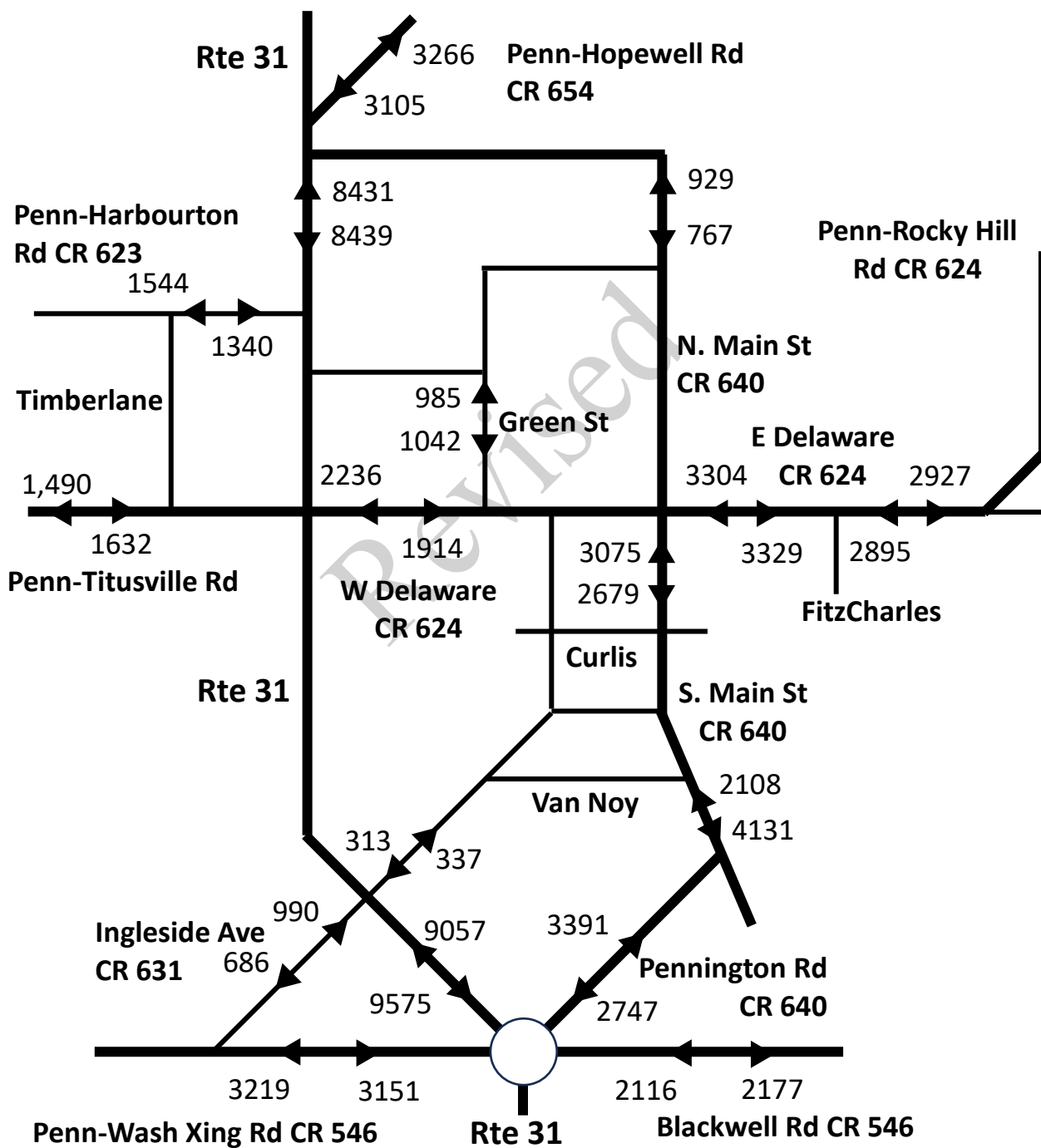


Figure A2. DVRPC hourly traffic counts for four roads

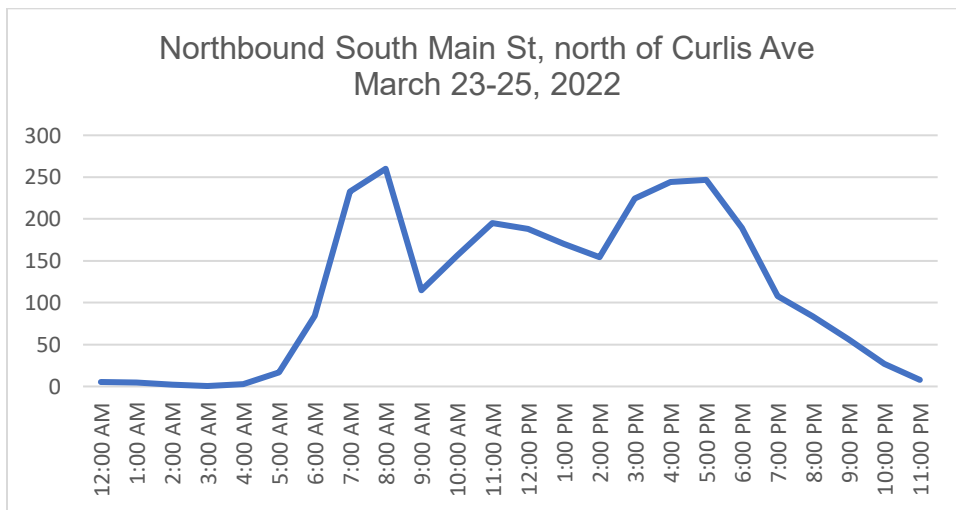
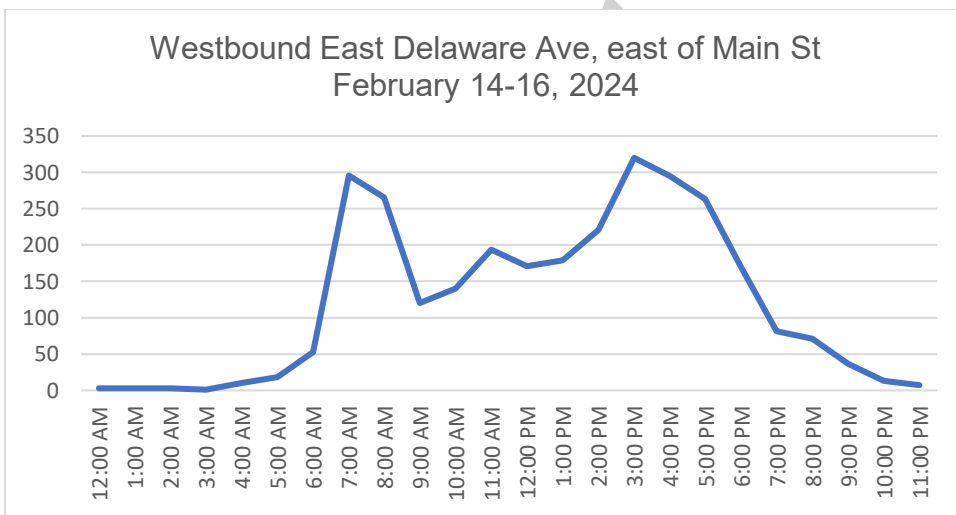
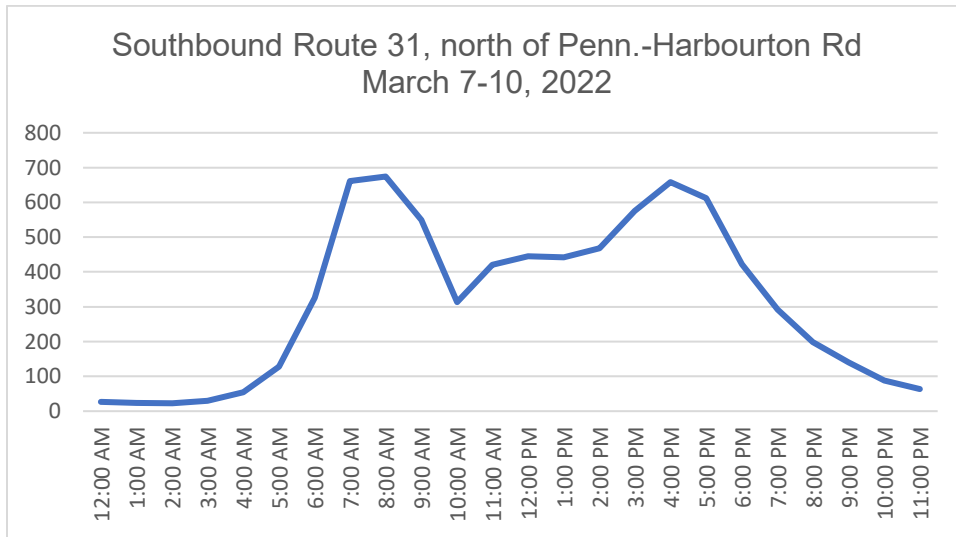


Table A1. Vehicle counts from the Delaware Valley Regional Planning Commission<https://www.dvrpc.org/webmaps/trafficcounts/>

Road	Location	Veh./day	Month
NJ 31 - SB	North of West Franklin	8,439	Mar-22
NJ 31 - NB	North of West Franklin	8,431	Mar-22
NJ 31 - SB	South of Search Ave	9,575	Mar-22
NJ 31 - NB	South of Search Ave	9,057	Mar-22
Pennington Titusville Rd - WB	West of Timberlane	1,490	Feb-24
Pennington Titusville Rd - EB	West of Timberlane	1,632	Feb-24
W Delaware Ave - WB	West of Green St	2,236	Jun-20
W Delaware Ave - EB	West of Green St	1,914	Jun-20
Green St - SB	South of Broemel Place	1,042	May-23
Green St - NB	South of Broemel Place	985	May-23
E Delaware Ave - WB	East of Main St	3,304	Feb-24
E Delaware Ave - EB	East of Main St	3,329	Feb-24
CR 624 E Delaware Ave - SB	East of Fitzcharles	2,895	Feb-24
CR 624 E Delaware Ave - NB	East of Fitzcharles	2,927	Feb-24
CR 640 N Main St - SB	South of Railroad Pl	767	Mar-21
CR 640 N Main St - NB	South of Railroad Pl	929	Mar-21
CR 640 S Main St - SB	North of Curlis	2,679	Mar-22
CR 640 S Main St - NB	North of Curlis	3,075	Mar-22
CR 640 S Main St - SB	South of Vannoy	4,131	Mar-22
CR 640 S Main St - NB	South of Vannoy	2,108	Mar-22
CR 640 Pennington Rd - SB	North of the Circle	2,747	Feb-24
CR 640 Pennington Rd - NB	North of the Circle	3,391	Feb-24
CR 631 Ingleside Ave - SB	North of Search Ave	686	Mar-23
CR 631 Ingleside Ave - NB	North of Search Ave	990	Mar-23
CR 631 Ingleside Ave - SB	West of Vannoy	313	Mar-21
CR 631 Ingleside Ave - NB	West of Vannoy	337	Mar-21
CR 654 Pennington Hopewell Rd - SB	Just north of Rte 31	3,105	Mar-23
CR 654 Pennington Hopewell Rd - NB	Just north of Rte 31	3,266	Mar-23
CR 623 Pennington Harbourton Rd - WB	East of Timberlane Dr	1,544	Mar-22
CR 623 Pennington Harbourton Rd - EB	East of Timberlane Dr	1,340	Mar-22
CR 546 Pennington Wash Xing Rd - WB	West of Dublin Rd	3,219	Mar-24
CR 546 Pennington Wash Xing Rd - EB	West of Dublin Rd	3,151	Mar-24
CR 546 Blackwell Rd - WB	East of Circle	2,116	Feb-24
CR 546 Blackwell Rd - EB	East of Circle	2,177	Feb-24

The DVRPC Congestion Management Process (CMP) analysis of Pennington is as follows:

Corridor 8, Sub-corridor C: Pennington Borough

This sub-corridor area includes Pennington Borough, which has a mix of main street/village and strip development patterns. It is impacted by through truck traffic on NJ 31. It is in the top 20% of NJ sub-corridors for anticipated volume to capacity ratio (V/C), transit score and land use centers.

Priority Congested Corridor and Sub-corridor Area: **No**

Congested Corridor and Sub-corridor Area with Major single-occupant vehicle (SOV) Capacity-Adding Strategies: **No**

Very Appropriate Strategies

1. Signal Improvements
Strategies, ranging from basic to sophisticated, that improve the efficiency of signals individually and in systems. This includes specific applications, such as for pre-emption for emergency vehicles or buses.
2. Improve Circulation
Strategies designed to move more vehicles through the existing road system, often using engineering approaches.
3. Walking and Bicycling Improvements
These are strategies to reduce congestion and promote livability by making it safer and more convenient to travel by walking and bicycling.
4. Turning Movement Enhancements
Strategies to reduce congestion and crashes through safer turning movements.
5. Land Use/Transportation Policies
Strategies that reduce congestion by changing land use and development patterns to encourage mobility options and limit new trip generation.
6. Transportation Services for Specific Populations
This is the provision of services that addresses specific needs or populations and includes employer-supported shuttles for employees. It also includes services oriented towards senior citizens and persons with disabilities.

Strategy Notes

1. Proposed walking and bicycling improvements as part of the Great Western Bikeway project near Pennington.
2. Given the levels of anticipated congestion, adding capacity to existing roads and transit capacity-adding strategies are appropriate in this sub-corridor if strategies further up the list cannot adequately address problems without also mixing in new capacity.
3. Placemaking and non-motorized transportation for corridors like this one that are high in land use centers.

Appendix B. Review of Pennington Circulation Plan components from the 1998 Master Plan and the 2005, 2013 and 2023 Reexamination Reports

1998 Pennington Borough Master Plan, pages 14-15

https://www.penningtonboro.org/sites/g/files/vyhli5426/f/uploads/1998_master_plan.pdf .

The following is a summary of the concerns and suggestions in the 1998 Plan:

1. Increased truck traffic on Route 31 since I-287 was completed in northern New Jersey was a concern. A suggestion about widening Route 31 in the Borough and adjacent areas was not deemed acceptable. The existing right of way can accommodate four lanes of traffic. Widening of Route 31 has been part of the State Highway master plan for many years, but no implementation date has been set.
2. Merrill Lynch and Bristol Myers Squibb will likely increase traffic on Borough streets. The Borough should work with the Township, Mercer County, and NJDOT to develop solutions to reduce this impact. Solutions included providing alternate routes and discouraging through traffic with traffic calming techniques.
3. A Town Center Area Concept Plan map suggested an access road to link Green Street with an expanded Town Center parking lot. A walkway/bike path from Borough Hall to Broemel Place and sidewalk to Green Street was also suggested.
4. Street trees, especially with branches that overhang the street, can have a calming effect on traffic. It is recommended that the current excellent street planting program be augmented with an expanded effort to plant additional trees on those streets with high traffic. Special consideration would be given to the main entrances to the Borough, e.g. North and South Main, East and West Delaware, Ingleside, and West Franklin.
5. The 1998 Plan contained a "Circulation and Sidewalk Plan" map. The policy of the Plan is that high volume streets have sidewalks on both sides and that low volume streets, such as cul-de-sacs, loop, and other non-through streets have sidewalks on at least one side. Also shown on the map is a walkway/bike path linkage between Curlis Avenue and Welling Avenue, using the former Baldwin Boulevard right-of-way.
6. It was recommended that the more intensively used crosswalks be designated by permanent crosswalk "pavers."
7. The reactivation of passenger service had been proposed for the West Trenton line. Possible sites for a new station should be explored.

The actions that have been taken regarding 1998 recommendations are as follows:

1. A bike/sidewalk connection from North Main Street to the proposed (Township) development on the west side of Route 31 was installed, with a traffic light.
2. A "four way" pedestrian crossing was implemented at the intersection of Main Street and Delaware Avenue.

2005 Pennington Borough Reexamination Report, pages 9-10 and 25-27.

https://www.penningtonboro.org/sites/g/files/vyhli5426/f/uploads/a_master_plan_reexam_-_2005_1.pdf.

Due to concern over Route 31, Pennington Borough participated with Hopewell Township in the "Route 31 Design Study" conducted by Dodson Associates with the aid of a Smart Growth Planning Grant. Recommendations for improvements pertaining to Route 31 in Pennington from the Study Report of 2002 are summarized in Section 3. Since these improvements are proposed within the State right-of-way, it was recommended that Pennington Borough and Hopewell Township should continue to work with the State Department of Transportation on the execution of these recommendations.

The following is a summary of the concerns and suggestions in the 2005 Reexamination:

1. Traffic congestion along State Highway Route 31 and Delaware Avenue has increased over the years, especially during the peak hours. The construction of the new Merrill Lynch facility in Hopewell Township to the west of the Borough has brought more traffic along State Highway Route 31 and through the Borough.
2. Truck traffic on Route 31 continues to be a major concern. In 1995, NJDOT announced a six (6) point action plan to address truck safety concerns on Route 31, which included reducing speed limits; implementing a truck safety inspection plan by the State Police; pursuing a permanent truck inspection station; forming a truck safety advisory group including municipal, county and state representatives; and working with the New Jersey Turnpike Authority on a truck-friendly policy to encourage the use of the Turnpike as a major through corridor for commercial traffic.
3. As confirmed by the community at the public meetings held by Dodson Associates during the study, making Route 31 an undivided four lane highway is not acceptable to Pennington Borough and the surrounding community.
4. The report proposes several Route 31 roadway improvements in Pennington Borough for consideration, including the following:
 - a. A two (2) lane roadway with enhanced striping and medians at the signalized intersections for the safe crossing of pedestrians and bicyclists;
 - b. A two (2) lane roadway with either a signalized intersection or a modern roundabout; or
 - c. A four (4) lane boulevard with either a signalized intersection or a modern roundabout.

Since the middle and high schools serve students in Pennington Borough, safe pedestrian and bicycle crossings are high priorities for any improvement plan to the highway.

5. The design of any roadway improvements to State Highway Route 31 should effect the goals and objectives of the Borough of Pennington, as follows:
 - a. Any improvements to State Highway Route 31 should not divert through traffic onto other roads through the Borough;
 - b. Safe and convenient pedestrian access within designated crosswalks across State Highway Route 31 should be provided; and
 - c. No left turning movements should be permitted onto State Highway Route 31, except at signalized intersections.

Additionally, improvements to the State Highway Route 31 intersection with Broemel Place are necessary to alleviate any impediments to emergency vehicle access to and from the Pennington Fire Company and Pennington First Aid Squad facilities on Broemel Place. An emergency vehicle signal, at minimum, should be erected at the intersection.

6. A Streetscape Committee report recommended improvements to Main Street and Delaware Avenue to create a better alignment at the intersection to facilitate the flow of traffic and to provide safe pedestrian crossings.
7. The sidewalk along the north side of East Delaware Avenue should continue eastward to the Borough border at the Stony Brook bridge, then connect with the Lawrence Hopewell Trail along Pennington Rocky Hill Road.
8. Delaware Avenue has been designated through the Borough to its intersection with Federal City Road as a bicycle compatible roadway, as indicated in "Bicycling Mercer County: A Guide To Bicycling In And Around The Capitol County", which was prepared by the Greater Mercer Transportation Management Association with input from local cycling clubs and advocacy groups, the Delaware Valley Regional Planning Commission, Mercer County, the New Jersey Department of Transportation and various municipalities. Improvements to the northeasterly extension of East Delaware Avenue to its connection to the Lawrence Hopewell Trail are recommended to complete the safe bicycle accessibility of the roadway.

Actions that have been taken on 2005 Reexamination recommendations are as follows:

1. A collaborative partnership between non-profit organizations, citizens, private corporations, and local, county and state government lead to the planning of the Lawrence Hopewell Trail. This twenty-mile biking and walking pathway will loop through Lawrence and Hopewell Townships to connect several corporate parks, schools, residential areas and recreational sites, including Rosedale Park and Northwest Mercer County Park east of Pennington Borough.
2. Bristol Myers Squibb received approval from the Hopewell Township Planning Board to build the first link of the proposed pathway along Pennington-Rocky Hill Road from Old Mill Road to the Titus Mill and Wargo Roads intersection.
3. Pedestrian improvements along Route 31 in concert with the 1998 "Circulation and Sidewalk Plan" provide connections between the Straube Center and West Franklin Avenue to the north and between Broemel Place and the U.S. Post Office to the south.
4. The new traffic light at the intersection of the realigned North Main Street with Route 31 provides protected pedestrian and bike crossings and improved left turns onto Route 31.
5. A traffic light at Elm Ridge Road and improvements made by Bristol Myers Squibb to Pennington-Rocky Hill Road also have helped with the traffic circulation in the eastern portion of the Borough.

2013 Pennington Borough Reexamination Report, pages 8-9

https://www.penningtonboro.org/sites/g/files/vyhli5426/f/uploads/2013_master_plan_reexamination_0.pdf .

The following is a summary of the concerns and suggestions in the 2013 Reexamination:

1. The need to provide for better traffic and pedestrian circulation in the Route 31 corridor still exists. Although the development of the Shoppes at Pennington along Route 31

incorporated design recommendations found in the 2002 Route 31 Design Study, traffic continues to build on Route 31 creating pedestrian difficulties for crossing the highway and vehicular access problems for traffic crossing or entering the highway.

Additional actions that have been taken on 2005 Reexamination recommendations reported in the 2013 reexamination are as follows:

1. Pedestrian circulation has been addressed since 2005 with the construction of new sidewalks on lower King George Road and on the east side of Sked Street south of Sked Street Park. In addition, pedestrian activated flashing signals have been installed at two crosswalks to improve pedestrian safety primarily for school children crossing South Main Street at Curlis Avenue and crossing West Delaware Avenue at Green Street.
2. Pennington residents on foot or on bicycle will also soon benefit by having access to the Lawrence-Hopewell Trail via the Pennington Connection starting at the Stony Brook bridge on Pennington-Rocky Hill Road.
3. Although not following the expansive scope of the "Streetscape Report", the Borough this year had less costly but significant improvements made to enhance the pedestrian environment in the downtown area. New sidewalks with brick pavers, decorative streetlights and signage, benches, free guards, bollards, and additional trees were included in the improvements. However, many of the recommendations made in the 1998 and 2005 Master Plan documents remain.

[Note: No additions to the circulation plan were made in the 2014 Land Use Plan Amendment.]

2023 Pennington Borough Reexamination Report

https://www.penningtonboro.org/sites/g/files/vyhlf5426/f/uploads/pennington_reexamination_report_adopted_5-10-23.pdf.

Pennington Borough Planning Board adopted its ten-year reexamination report in a public meeting at Borough Hall on May 10, 2023. It reviewed progress on the 1998 Master Plan goals and the additional goals from the 2005 and 2013 reexamination reports and discussed those goals which were not yet met or had been discontinued. It also reported on progress that had been made in the Borough since 2013 through the actions of Borough Council. It then reported changes in assumptions, policies and objectives at the local, county and state levels that need to be considered for the Master Plan and concluded that it was time for an updated plan. Target date is 2025 and this new Mobility (Circulation) Plan will be one of 12 elements in Master Plan 2025.

Mobility issues addressed throughout the 2023 Reexamination Report are summarized here.

Concerns remaining from the 1998 Master Plan and 2005 and 2013 reexaminations:

1. The visual quality and historic character of the Borough should be protected and enhanced. Reduce through traffic and enhance pedestrian safety and access.
 - Through traffic and pedestrian safety and access remain a concern. Sidewalks in the area of Main Street and Delaware Avenue were improved under the Streetscape project.
2. The existing distinction between highway business uses and town center housing and business uses should be maintained. Pedestrian linkages between the two business areas should be improved.

- Pedestrian linkages between the two business areas remain as they were in 2013, although the pedestrian environment near Main Street and Delaware Avenue has been improved.
- 3. The Borough should work toward a more proactive effort on regional issues such as traffic and circulation, open space preservation, community facilities, stream corridor protection, and water quality improvement.
 - Pennington and Hopewell Township have worked together on Route 31 traffic and safety issues. They have not always agreed but have generally worked to influence NJ DOT on safety issues. The Borough prevailed over the Township on the speed limit on Route 31 in the Borough which is set at 35 mph rather than the Township's preferred 40 mph.
- 4. The 2002 Route 31 Design Study detailed design guidelines for the corridor and for roadway improvements along State Highway Route 31.
 - Certain improvements to the roadway have been constructed along the Route 31 corridor since the time of this recommendation. The intersection of Route 31 and West Delaware Avenue now has left turn lanes in all four directions and left turn traffic lights. The lights also allow pedestrian crossings, although there is still a risk of pedestrian conflict with cars turning left or right at a green light and with cars turning right at a red light. The speed limit in the Pennington Borough section of Route 31 is 35 mph, although it is frequently exceeded. The intersection of North Main Street and Route 31 now has pedestrian crossings controlled by traffic lights. A concrete sidewalk now runs along the east side of Route 31 from the Pennington Golf Center north to West Franklin Avenue. There is no sidewalk on the west side of Route 31.

Council actions and concerns on Mobility since 2013:

1. The Borough remains concerned about traffic safety particularly at the intersection of Route 31 and West Delaware Avenue given that as many as 100 children and pedestrians cross this intersection daily to get to and from Timberlane Middle School and Hopewell Valley Central High School. A pedestrian fatality occurred there in October 2021, which prompted the Borough Council to pass Resolution 2021-11.14 urging NJDOT to re-visit the 2002 study of the Route 31 and West Delaware intersection in Pennington Borough. In response, the mayor received a letter from the NJDOT indicating that they do not see a problem with the intersection. The Council then passed Resolution 2022-5.19 reaffirming the previous resolution and sent certified copies to the Governor, Senator, Members of the Assembly, and the Mercer County Executive.
2. Two new Hopewell Township developments taking place on Scotch Road and Washington Crossing Road will have a major impact on traffic. The Scotch Road development, by US Home Corp./Lennar, brings 1077 new living units onto the market. The Washington Crossing Road development by US Home at Hopewell Urban Renewal brings 379 units. The total of 1456 added units exceeds Pennington's existing 1146 housing units. These large residential developments will significantly increase traffic in the area and, of concern to the Borough, will be increased traffic crossing Route 31 at West Delaware Avenue, Ingleside Avenue, and Pennington Circle. In 2014, Borough Council adopted the NJ DOT Complete Streets policy. The benefits of complete streets include improving safety for pedestrians, bicyclists, children, older citizens, and the mobility challenged, reducing traffic congestion and reliance on carbon fuels, and saving

money by incorporating sidewalks, bike lanes, and safe crossings into the initial design of a project to spare the expense of later retrofits. The Council reaffirmed the policy in 2016 but allowed four exemptions, which must be documented and approved by the Council, for the following four conditions, where:

- a. Bicyclists and pedestrians are prohibited by law from using the roadway. Detrimental environmental or social impacts outweigh the need for these accommodations.
 - b. The safety or timing of a project is compromised by the inclusion of Complete Streets design practices.
 - c. The cost of incorporating new bicycle, pedestrian, and/or public transit facilities is excessive.
 - d. The need for and/or probable use of the facility shall be considered in making the determination as to whether an exception should be approved at this time or held for future consideration.
3. In 2021, the Council adopted a resolution in support of the 2020 Mercer County Bicycle Master Plan. In 2022, a resolution was adopted to endorse Vision Zero, which encourages municipalities to adopt achievable goals to prevent traffic-related severe injuries and fatalities based on the following principles:
- a. Deaths and severe injuries caused by traffic accidents are preventable.
 - b. Human life and health should be prioritized in all transportation systems and in all aspects of transportation planning.
 - c. Human error is inevitable, and transportation systems should be forgiving.
 - d. Transportation planning should focus on systems-level changes above influencing individual behavior.
 - e. Speed is the single most important factor in crash severity.
4. A "Streetscape Report" prepared by the Streetscape Committee of the Borough set forth recommendations for hardscape and other improvements within the Town Center area and the report was incorporated into the Master Plan by reference. The streetscape improvements recommended in the area around the Main Street and Delaware Avenue intersection are being constructed as funding from NJ DOT's Transport Alternatives is obtained. The first project, to improve curbing on North Main Street was completed in 2014. In 2017 a grant was approved for a Phase II project on improvements on East and West Delaware Avenue and South Main Street. The project is ongoing.
5. The Council is also concerned that the responsibility of adjacent property owners to maintain their sidewalks is often ignored. Chapter 177 of the Borough Code covers repair of sidewalks, snow and ice removal, and the clearance and control of debris and overgrowth. Responsibility for enforcement needs to be clarified.

Changes in assumptions, policies and objectives at the local, county and state levels:

1. The COVID-19 pandemic will have a lasting impact on the State's economy and how its residents and businesses operate and interact with one another in the future.
 - a. Pedestrian and bicycle facilities: With the temporary closure of businesses and residents working from home, the desire to walk and bike around the community for recreation increased. It is likely this will create new habits among residents and increase the demand for safe and convenient pedestrian and bicycle facilities.

The Borough should explore how these facilities can be provided between destinations where they do not exist and where enhancements are necessary.

- b. Drop-off / Pick-up: Temporary closure of businesses and concern about safety of indoor spaces have generated increased demand for take-out food and deliveries of online purchases and restaurant food. The Borough may be faced with increased demand for customer pick-up locations and home delivery. Such accommodation has already generated reconfigured parking lots and curbside pick-up arrangements. These accommodations have addressed not only health and safety concerns for employees and customers, but also enhanced convenience for local businesses.
2. The popularity of electric personal vehicles has grown substantially.
 - a. While many owners will conduct charging at their home and will do so in accordance with the applicable building code, many will also need and/or desire to charge while at work, shopping or otherwise out of their homes. This requires electric vehicle charging stations. Support for charging stations is consistent with the Strategy 1 of the *2020 New Jersey Energy Master Plan* which states as a goal: “Reducing Energy Consumption and Emissions from the Transportation Sector, including encouraging electric vehicle adoption, electrifying transportation systems, and leveraging technology to reduce emissions and miles traveled.”
 - b. Amendments to the Municipal Land Use Law adopted in August 2021 included many provisions specific to the installation of electric vehicle supply equipment, which are detailed in the 2023 Master Plan Reexamination report, Section C8, Electric Vehicles.

Appendix C. Greenhouse Gas Emissions Calculations

It is instructive to estimate the annual CO₂e (carbon dioxide equivalent) emissions reduction possible if Pennington Borough residents converted to electric vehicles. The US EPA reports annual data on CO₂e emissions in the United States, and a breakdown by sector in:

<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#transportation> .

Data on energy annual usage can be found in charts prepared by Lawrence Livermore National Laboratory from DOE/EIA data in <https://flowcharts.llnl.gov/commodities/energy>.

In 2021, transportation in NJ used 0.132 Quads (39 TWh) of fossil fuel energy and contributed 40.7 MMT (million metric tons) per year of CO₂e to the atmosphere. At the same time, NJ electricity generation of 0.194 Quads (57 TWh) contributed only 13.5 MMT of CO₂e (this can be converted to 0.52 lb/kWh). If the 39 TWh required to move vehicles came from electricity at the current rate of CO₂e production, it would contribute only 9.2 MMT of CO₂e (13.5 x 39/57), saving 31.5 MMT (40.7 - 9.2) per year. Personal vehicles (cars, SUVs, pickup trucks and minivans) generate 57% of the emissions, so changing to battery powered electric vehicles in New Jersey would save about 18.0 MMT (57% of 31.5).

The population of Pennington is around 2,800, and of New Jersey is about 9.3 million, so on a proportional basis, the CO₂e reduction from Pennington with all electric personal vehicles would be 5,400 MT (metric tons)/year. This is about 20 times the 276 MT used by Borough operations, which Borough Council resolved to reduce to zero by 2035, as discussed earlier. As New Jersey moves towards its goal of zero CO₂e emissions from electric power generation by 2035, the 9.2 MMT from the generation of the electricity to power vehicles would drop to zero and the total CO₂e reduction from personal vehicles in New Jersey would be 23 MMT (57% of 40.7). For Pennington, this would be about 7,000 MT per year, which is 2.5 MT per resident per year.

This analysis reasonably assumes the efficiency of electric motors is close to 100%, compared with an average of around 21% for internal combustion engines. In 2018, the Delaware Valley Regional Planning Commission completed a regional energy use and greenhouse gas emissions inventory for the nine-county DVRPC region. As part of this inventory, DVRPC allocated both energy use and greenhouse gas emissions to individual counties and municipalities based on 2015 data. For Pennington, the report allocated 15,200 MT of CO₂e to all transportation.

Multiplying by the 57% allocated by the state to cars, SUVs, pickup trucks and minivans gives 8,700 MT, or 3.1 MT per resident per year, which is not far from the 2.5 MT estimated above.

See <https://www.dvrpc.org/webmaps/MunicipalEnergy/mcdDetail.aspx?mcdcode=3402157600>

Looking at this on an individual car basis, the average EV gets 2.9 miles/kWh. To go 2.9 miles, a 30-mpg gasoline car uses $2.9/30 = 0.097$ US gallons of gasoline and at 19.6 lbs of CO₂e per US gallon, CO₂e from the gas car = $19.6 \times 0.097 = 1.9$ lbs/kWh. As detailed above, electricity generated in New Jersey produces 0.52 lbs/kWh, which is 3.7 times lower. (Wyoming and West Virginia electricity generation produces over 2.0 lbs/kWh due to the prevalence of coal-fired power stations so their EVs give no CO₂e benefit). Two issues being addressed by the EV industry are increasing the energy storage density of batteries to increase range, and battery recharging time.

To compare EV to gasoline charging times, the reference is that the 10 gallons needed for a range of 300 miles with the 30-mpg car takes about a minute to pump at a gas station. For the EV average 2.9 kWh/mile, a charge of 103 (300/2.9) kWh is needed. There are 3 classes of EV charger, and the time needed to deliver 103 kWh can be calculated for each:

- Home Level 1 Charger: 120V 20A = 2.4 kW. $103 \text{ kWh} / 2.4 \text{ kW} = 43$ hours per 300 miles
- Home Level 2 Charger: 240V 40A = 9.6 kW. $103 \text{ kWh} / 9.6 \text{ kW} = 11$ hours per 300 miles
- Commercial Level 3, NJ: 480V 310A = 150 kW. $103 \text{ kWh} / 150 \text{ kW} = 40$ mins per 300 miles
- Commercial Level 3, max: 480V 730A = 350 kW. $103 \text{ kWh} / 350 \text{ kW} = 18$ mins per 300 miles

The charging rate depends on the EV's battery control system, so actual times may be longer. Also, the total number of Level 3 charges during the lifetime of an EV battery may be limited due to the high amperage. The analysis tells us that a 120 V Level home charger would only give a range of about 80 miles after an overnight 12-hour charge. This may be sufficient if all car use is local and infrequent, but for many users, a Level 2 charger is needed.

Revised

Notes on this Revised Draft of the Utility Services Plan element

This revised draft of the Utility Services Plan element will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the Utility Services Plan element, the following duplication issues were identified:

1. **Stormwater:** Strategies for managing stormwater both across the municipality and on individual sites were in the original version of the GBESE. Managing stormwater at the municipal level has been removed from the GBESE and some additions were made to goals 4 and 5 in the Utility Services Plan element. Managing stormwater on individual sites will remain in the GBESE.
2. **Waste Management:** The original version of the GBESE included a full section on waste management even though it is not included in the MLUL description of the GBESE. The Utility Services Plan element now includes goals from the GBESE. The GBESE includes a goal related to construction waste from the development of a site and a section that refers the reader to the Utility Services Plan element for details.
3. **Community Energy Use and Greenhouse Gas Emissions:** Goals for reducing energy use and emissions by Borough operations, residents and businesses are in the GBESE. Goals 7 and 8 from the original Utility Services Plan have been moved to the GBESE.

Comments from the public have been considered. Thanks go to Kati Angerone for her thorough review and many suggestions for improvement of the element. Most have been incorporated in this revision.

[These notes are for information only and will not appear in the final version of the element.]

MASTER PLAN
BOROUGH OF PENNINGTON
NEW JERSEY

5. Utility Services Plan Element (Revised)

The final draft of the Utility Services Plan from the element writing team was conditionally adopted by the Planning Board on March 12, 2025, and posted on the Borough website for public comment.

This revised version includes updates based on public comments and changes based on comparison of all elements to ensure consistency. These are highlighted in yellow. It will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

Contents

1. Introduction
2. Utility Services Plan Vision, Goals and Strategies
3. Background to Utility Services and Service Providers
 - a. Pennington Department of Public Works
 - b. Water Supply, Treatment and Distribution Systems
 - c. Sanitary Sewer System and Sewerage Treatment
 - d. Stormwater Management
 - e. Recycling
 - f. County Road and Bridge Maintenance
 - g. Electricity and Natural Gas
 - h. Telecommunications
4. Relationship with Regional Utility Plans
5. Relationship with Other Plan Elements in the Master Plan

Appendix A. Tables.

Utility Services Plan Element Writing Team

Thanks go to the following people who helped create this draft of the Utility Services Plan element: GP Caminiti, Brian Friedlich, Joann Held, Meredith Moore, Natalie Shivers, Nadine Stern, Mary Ternoey and Rick Smith, with Andy Jackson as chair. Thanks also go to Kati Angerone for her thorough review and many suggestions for improvement of the element.

1. Introduction

The Municipal Land Use Law (MLUL) includes a Utility Services Plan as a permitted Master Plan element. N.J.S.A. 40:55D-28(4) describes the element as follows:

“A utility services plan element analyzing the need for and showing the future general location of water supply and distribution facilities, drainage and flood control facilities, sewerage and waste treatment, solid waste disposal and provision for other related Utility Services and including any stormwater management plan required pursuant to the provisions of PL.1981, c.32 (C.40:55D-93 et al).”

Pennington Borough provides many services to its residents and businesses beyond those listed in the MLUL description above. All utility services should be part of the planning process. This element includes services provided by the Department of Public Works and outside entities, including commercial services.

Services provided within the Borough by the Department of Public Works:

1. Operation, management and maintenance of the Pennington Water Department, a public water system, including water supply infrastructure, such as water supply wells, water treatment and water distribution system (i.e., water mains, valves, towers, hydrants, etc) for the provision of safe and adequate water supply and fire protection for residents, businesses and municipal buildings.
2. Operation, management and maintenance of the wastewater collection system and delivery to the Stony Brook Regional Sewerage Authority (SBRSA) Pennington Treatment Plant.
3. Operation, management and maintenance of Borough-owned or controlled stormwater infrastructure (i.e., pipes, inlets, basins, etc.) and provision of stormwater management consistent with applicable federal and state laws.
4. Borough road repairs and maintenance.
5. Snow removal from Borough Streets and Borough owned or controlled properties.
6. Maintenance of Borough Trees, as defined in the Borough's Community Forestry Management Plan developed by the Shade Tree Committee.
7. Garbage collection, including additional fee-based services for bulk waste.
8. Leaves, branches, and lawn and yard waste collection.

Services provided to the Borough by Others:

1. Recycling by the Mercer County Improvement Authority
2. County road maintenance, including leaf and snow removal by the Roads Section of the Mercer County Department of Transportation & Infrastructure
3. Electricity from Public Service Electric and Gas (PSE&G).
4. Natural Gas from Elizabethtown Gas
5. Telecommunications by several suppliers.

In preparing this Utility Services Plan element, the drafting committee benchmarked the Utility Services Plans in the Master Plans of nearby communities. The Utility Services Plan of the 1998

Pennington Borough Master Plan and the utility services sections in the 2005, 2013 and 2023 Master Plan Reexamination reports were also reviewed see: <https://www.penningtonboro.org/1261/1998-Master-Plan-Updates>

The 2023 Master Plan Reexamination report recommended that the water and sewerage data in the 1998 Utility Services element should be revised to reflect current capacities. The updated element should also analyze the need for and show the future general location of water supply and distribution facilities, drainage and flood control facilities, sewerage and sewerage treatment, solid waste disposal and provision for other related utility services and stormwater management facilities. This element will be helpful to the Borough as it considers likely future development and to what extent it will be served by water, sewer, flood, solid waste, and stormwater infrastructure and what, if any, upgrades are necessary to ensure adequate service. It should also include electricity and natural gas supply and the installation of communication tools – cable, cell towers and wi-fi. The preparation of this element required coordination with the Director of Public Works.

The vision and goals for the Utility Services Plan element are a subset of the overall Master Plan vision and goals developed by the Master Plan Committee (MPC) and the Citizens Advisory Committee (CAC). The CAC is composed of 15 resident volunteers appointed by the Mayor on October 4, 2023. The role of the CAC is to assist the Planning Board in any area assigned to it, as detailed in NJ MLUL 40:55D-27a. In this case, the CAC is assigned to help the Planning Board develop the Master Plan. Their role is to work with the MPC and with the Committees and Commissions developing draft elements for the Master Plan. CAC members serve as community contacts, obtaining feedback and buy-in as the Plan elements develop.

In the fall of 2023, the MPC and CAC worked together to develop the vision and goals for the updated Master Plan. Their report was reviewed, modified and endorsed by the Planning Board in a public meeting on January 10, 2024. The modified vision and goals were presented to the public at an Open House at Borough Hall on April 10, 2024. Minor revisions were made based on feedback from Borough residents. The resulting list of draft goals was distributed to the teams developing the Master Plan elements as a guide for their discussions. The Utility Services goals in that report were the starting point for the Utility Services Plan element writing team.

2. Utility Services Plan Vision, Goals and Strategies

Pennington Borough’s vision for Utility Services is to provide first-class, cost-effective services and safe and reliable water and sanitary systems, in compliance with applicable federal and state laws.

Goals for services provided by the Department of Public Works and Others are:

1. Continue to provide high-quality, cost effective and environmentally conscious utility services for all Pennington residents and businesses.

- a. Consider offering some of these services for a fee to Hopewell Township residents whose homes can only be accessed via Borough roads. For example, they may be prepared to pay for water to avoid individual costs for water treatment or well repairs.
 - b. Ensure that the SBRSA sewerage plant serving Pennington is protected from flooding along Stony Brook.
 - c. Manage utility assets through maintenance of an up-to-date asset inventory, appropriate assessment of vulnerability and condition, understanding of asset lifecycle, charging adequate fees and rates and capital planning.
2. Continue to provide services in Borough public areas and rights-of-way such as stormwater management, tree management, infrastructure maintenance and upgrades, snowplowing, and road repairs.
 - a. Coordinate with Mercer County Department of Transportation & Infrastructure on road maintenance and leaf and snow removal on County Roads in the Borough.
 - b. Maintain an up-to-date Community Forestry Management Plan.
 3. Continue to maintain and improve water and wastewater systems to ensure uninterrupted service, maximize system capacity, and reduce the long-term cost of municipal ownership.
 - a. Improve climate resilience through vulnerability assessment informed infrastructure improvements and redundancy to maintain service during extreme climate change-related events.
 - b. Ensure there is sufficient water and sewer capacity to serve new developments, including those associated with the Borough's affordable housing obligation.
 - c. Continue the leak detection and water main rehabilitation programs, including lead service line replacements.
 - d. Consider connecting to an outside supplier to supplement water supply in emergencies as an alternative to installing a second water tower.
 - e. Continue to reduce surface water inflow into the wastewater collection system to ensure efficient use of wastewater treatment facilities
 - f. Improve the understanding of inflow and infiltration of surface water into the ground to maintain groundwater and aquifer quality.
 4. Protect water quality for drinking, recreation, irrigation, and natural habitat, maintain Municipal Separate Storm Sewer System (MS4) permit compliance and meet or exceed current stormwater requirements at N.J.A.C. 7:8.
 - a. Maintain an up-to-date stormwater asset inventory, Stormwater Management Plan and Stormwater Pollution Prevention Plan.
 - b. Seek all available Federal, State, and County financial assistance to improve stormwater infrastructure to prevent flooding and explore new opportunities to fund provision of stormwater services, such as through a Stormwater Utility.
 - c. Reduce stormwater runoff by encouraging a reduction in impervious coverage and consider ordinances that limit impervious surface and lower stormwater management thresholds, especially in areas that are flood prone.
 - d. Educate property owners and encourage landscaping for improved water absorption, and managing stormwater close to where it falls.

- e. Develop and maintain an up-to-date Watershed Improvement Plan, consistent with MS4 requirements, to address water quality and flooding within the Borough's watersheds.
 - f. Enforce riparian buffers ordinances and encourage enhancement of these areas with native and appropriate vegetation to reduce nonpoint source pollution and reduce flooding.
 - g. Preserve and enhance riparian zones to minimize flooding, maximize water quality and protect aquatic habitats.
 - h. Continue to reduce surface water inflow into the wastewater system.
5. Reduce the impact of severe storms on fluvial and stormwater flooding in the Borough.
- a. Develop hydrologic and hydraulic analyses of surface waters and stormwater infrastructure in the Borough that are susceptible to frequent flooding, including Lewis Brook and its tributaries.
 - b. Identify opportunities for flood mitigation and restoration of the natural floodplain and stormwater infrastructure improvements within the Borough.
 - c. Determine best management practices and amendments to ordinances, including stormwater basins, floodplain restoration, removal and reduction of impervious surfaces and green infrastructure, that can be used to slow stormwater, reduce runoff and thereby reduce flooding.
 - d. Ensure that Borough ordinances are written to reduce or eliminate disturbance to natural stormwater systems and use green infrastructure.
 - e. Coordinate flooding analyses and identify opportunities for flood mitigation and restoration of the natural floodplain and stormwater infrastructure improvements with local and upstream partners including:
 - i) Mercer County Department of Transportation regarding bridges, culverts and stormwater infrastructure within the Borough, particularly along or draining to Lewis Brook. Note that as of 2025, Mercer County is in the planning stages of improving and/or replacing bridge and culvert crossings along Lewis Brook.
 - ii) New Jersey Department of Transportation regarding stormwater infrastructure associated with Route 31 and draining to nearby waterways or connecting to Pennington storm systems.
 - iii) The Hopewell Valley Regional School District regarding drainage of Central High School facilities into the Lewis Brook watershed.
 - iv) Mercer County Park, particularly as it relates to flooding on the Stony Brook, which backs up into the Lewis Brook. Work with them on beaver management to prevent the exacerbation of localized flooding that can damage water infrastructure that Pennington relies upon such as sewer collection system and the Stony Brook Wastewater Treatment Plant.
 - f. Identify, characterize, document history of and map piped streams or stormwater ditches that could be 'daylighted' to improve aesthetics, and the natural functioning of the watershed, reduce flooding and increase green space, all of which have notable health and safety benefits.
 - g. Develop a maintenance plan, consistent with or in exceedance of requirements of the MS4 permit, to ensure that stormwater infrastructure such as inlets, pipes and catch basins remain free of debris and that stormwater operation is optimized.

6. Conduct a flood vulnerability assessment on existing and future development that incorporates future floodplains using the New Jersey Department of Environmental Protection's Inland Climate Adjusted Flood Hazard Area.
 - a. Chapter 163, Part IV 163-20 of the Borough Code needs to be consistent with State minimum floodplain standards (i.e., New Jersey Flood Hazard Area Control Act rules, N.J.A.C. 7:13 and the Uniform Construction Code N.J.A.C 5:23) and therefore must be updated to reflect amendments to these standards.
 - b. Residents need to be made aware of any flood risks to their homes based on updated flood hazard area delineations and as of July 2023 residents and landlords are required by state law to disclose certain flood risks to tenants or prospective buyers.

7. Promote recycling and increase the range of materials that can be recycled.
 - a. Continue to promote the County's current recycling program through residential education regarding proper recycling and by making the recycling schedule readily available.
 - b. Lobby the Mercer County Improvement Authority to accept more materials for recycling, such as other plastics and polystyrene packaging and work with the Hopewell Valley Green Team to make interim arrangements to recycle materials that are not currently accepted.
 - c. Explore and continue alliances with other local/regional organizations (i.e., Hopewell Valley Green Team, Hopewell Valley Regional School District) to establish new or expanded programs to address materials not currently included in existing programs (e.g. metals, plastics other than 1,2 or 5, Styrofoam, construction/demolition debris, window glass, etc.) and host freecycle and repair clinic events that reduce landfill waste. Create a Borough collection site for other items that can be recycled when delivered to recyclers of specific items.
 - d. Request that the County collect electronic goods, batteries, and hazardous materials more frequently than every six months.
 - e. Investigate whether the Borough can generate income by recycling metals and expanded polystyrene and save money by reducing the volume of waste going to a landfill.
 - f. Encourage composting of food waste and other organic material by residents, businesses, and institutions through education on the benefits and best practices. Facilitate participation by establishing compost bins at municipal facilities and schools and make them available to residents.
 - g. Ensure the Borough's municipal operations utilize optimal waste management practices. Set a date by which the Borough is 100% paperless, while recognizing that some residents are not comfortable with computers, or don't have access, provide paper options as requested.
 - h. Provide recycling bins at all municipal locations including playing fields and parks and wherever trash receptacles are located.

8. Electricity – Public Service Electric and Gas
 - a. Work with PSE&G to ensure that Pennington is provided with an acceptable level of service and that the distribution system can supply sufficient power as electricity demand

- in Pennington increases due to electrification of Borough operations, residences and businesses, and transportation.
- b. Ensure that PSE&G makes renewable electricity from all eligible suppliers available to Borough users.
 - c. Support the PSE&G program to improve supply resilience. Take every opportunity to **convert overhead** utility lines to underground when making infrastructure improvements.
9. Natural Gas – Elizabethtown Gas
- a. As Pennington moves to electrification, ensure that natural gas supplies **will continue to meet needs in the Borough**.
10. Telecommunications.
- a. Ensure that Pennington continues to have Borough-wide access to the internet and streaming TV at speeds that are best-in-class.
 - b. **In recognition that dead zones are a threat to public safety**, ensure that comprehensive coverage of cell phone service is available.
 - c. Embrace and facilitate the delivery of new technology and services as they become available, while ensuring that the size, location, and appearance of cables and facilities is not visually intrusive.
 - d. Borough electronic communications, **including virtual meetings and programs, website, social media and email**, with residents and businesses should be first class.

3. Background to Services and Service Providers

a. Pennington Department of Public Works

(<https://www.penningtonboro.org/1230/Department-of-Public-Works>)

The Department of Public Works (DPW) is responsible for maintaining the roads, parks, municipal buildings, and Borough-owned shade trees. The DPW collects municipal waste, as well as leaves, branches and yard waste and clears Borough roads of snow. The public water supply system, the Pennington Water Department (PWD), includes treatment and distribution, is owned and operated by the Borough under the direction of the Superintendent of Public Works as New Jersey licensed water system operator, **consistent with federal and state laws. Apart from the main campus of the Pennington School and a few Borough homes**, PWD delivers water to all properties in the Borough, as well as several properties in Hopewell Township that straddle the municipal boundary. In 2025, there were 1087 customers made up as follows: 875 single-family homes, 89 multi-family residences, 94 commercial, 15 churches and 14 schools. The system is also responsible for delivering water for fire protection **by maintaining the Borough fire hydrants and adequate pressure, consistent with state law.**

DPW staff maintains and operates the Borough's wastewater collection system, **consistent with federal and state law**, with delivery to the SBRSA treatment plant located on Rocky Hill Road.

b. Water Supply, Treatment and Distribution Systems

The water system consists of approximately 80,000 feet of water main, 367 water main valves, 111 hydrants, four deep wells equipped with turbine and submersible pumps, two packed column treatment units, one packed tray aeration system and a 600,000-gallon standpipe storage tank next to Borough Hall. It supplies 1,087 customers, as described above.

Pennington Borough's water source is the Brunswick Aquifer. Water withdrawals are regulated and permitted by the New Jersey Department of Environmental Protection (NJDEP). This permit, known as a Water Allocation Permit, is renewed every ten years, or sooner if modifications to the permit are proposed. The current Water Allocation Permit #5276 is effective until April 30, 2034. During the permit renewal process, the NJDEP reviews the prior reporting and issues a staff report concerning the allocation and the availability of water from the aquifer being used. The report contains recommendations for modifications and conditions which are incorporated into the renewed permit.

The allocation permit includes a variety of initial, monthly, biennial and general conditions. These conditions **require** the monitoring of water levels at a multitude of locations, adoption and implementation of water conservation and drought management plans, investigation of valid complaints by users of wells within the zone of influence of the municipal wells and maintaining the unaccounted-for water below 15% of total water use per NJDEP guidance. Unaccounted-for water is the difference between water delivered by the wells and the amount that is recorded by customer meters. Unaccounted-for water may be due to leakage or to inaccurate meters.

The current allocation permit provides for a maximum of 145 million gallons per year, a rate designed to maintain the sustainability of the aquifer in the long term. The monthly allocation maximum is 12.6 million gallons per month, slightly higher than 1/12th of the annual maximum allocation, allowing some monthly variation, **as may be necessary depending seasonally**. The maximum instantaneous withdrawal is 777 million gallons per minute. This allows the wells to keep up with short-term demand. Night withdrawals are far smaller than those during the day. The withdrawal in 2024 was 90.3 million gallons and the average monthly withdrawal was 7.5 million gallons, about 60% of the maximum. This leaves room for growth in the residential and commercial area.

The allocation permit also regulates the maximum pump capacity for each well to prevent the local water level falling below a safe level. Details on the wells are in Table 1. The total capacity of the wells is just above the maximum 777 gallons per minute allocation, so the wells are adequate to meet demand.

There is a significant concern regarding demand for firefighting, both in short-term supply volume and water pressure maintenance. When the Heritage at Pennington development was built a booster station was installed to maintain pressure for the sprinkler system and the fire hydrants. One **possible solution to address this concern and** increase emergency supply is to construct an additional water tower, possibly on the Public Works site because of its high elevation. A second option is to connect to a nearby NJ American Water supply line. This option

would require coordination with Mercer County as it will involve infrastructure at the Stony Brook bridge that is slated for design and replacement.

Table 1. Pennington Borough water wells.

Well	Capacity (gallons/minute)
6	202
7	190
8	152
9	250
Total	794

A comprehensive analysis of field test results, historical operations data and the permitted quantities outlined in the Borough's NJDEP Water Allocation Permit was presented in the Well Capacity Testing Technical Report dated April 2004, which is on file with Public Works. In 2019, Van-Note Harvey Associates prepared an Asset Management Plan (AMP) for PWD, as required by the NJ Water Quality Accountability Act. The AMP has the following purposes:

1. To demonstrate responsible management of the drinking water assets.
2. To communicate and justify funding requirements indicated by the plan.
3. To provide a management roadmap for the utility.
4. To serve as a link between the Pennington Water Department and its customers.

The Asset Management Plan contains an overview of the utility, mission statement, level of service agreement, critical asset list, operation and maintenance strategy, capital investment program, and financial strategies. It also laid out a plan for upgrading all the water lines. Although DPW had planned to conduct this work when roads were being resurfaced, an influx of federal financial support for road repairs from the Inflation Reduction Act led to the roads being resurfaced before the water line replacements could be planned.

The PWD upgrades its treatment infrastructure to ensure that the water quality remains in compliance with the state and federal health and safety regulations, as overseen by the NJDEP. An Annual Drinking Water Quality Report is sent to water customers.

The following is a list of proposals and possibilities that may increase demand for water:

- Landfill property redevelopment
- Blackwell property redevelopment
- Wells Fargo site redevelopment
- 12 North Main Street redevelopment
- Senior Center redevelopment or new use
- Single-family infill/minor subdivisions
- Accessory dwelling units
- School Administration Building (re-use net increase)
- Other subdivision redevelopments or expansions

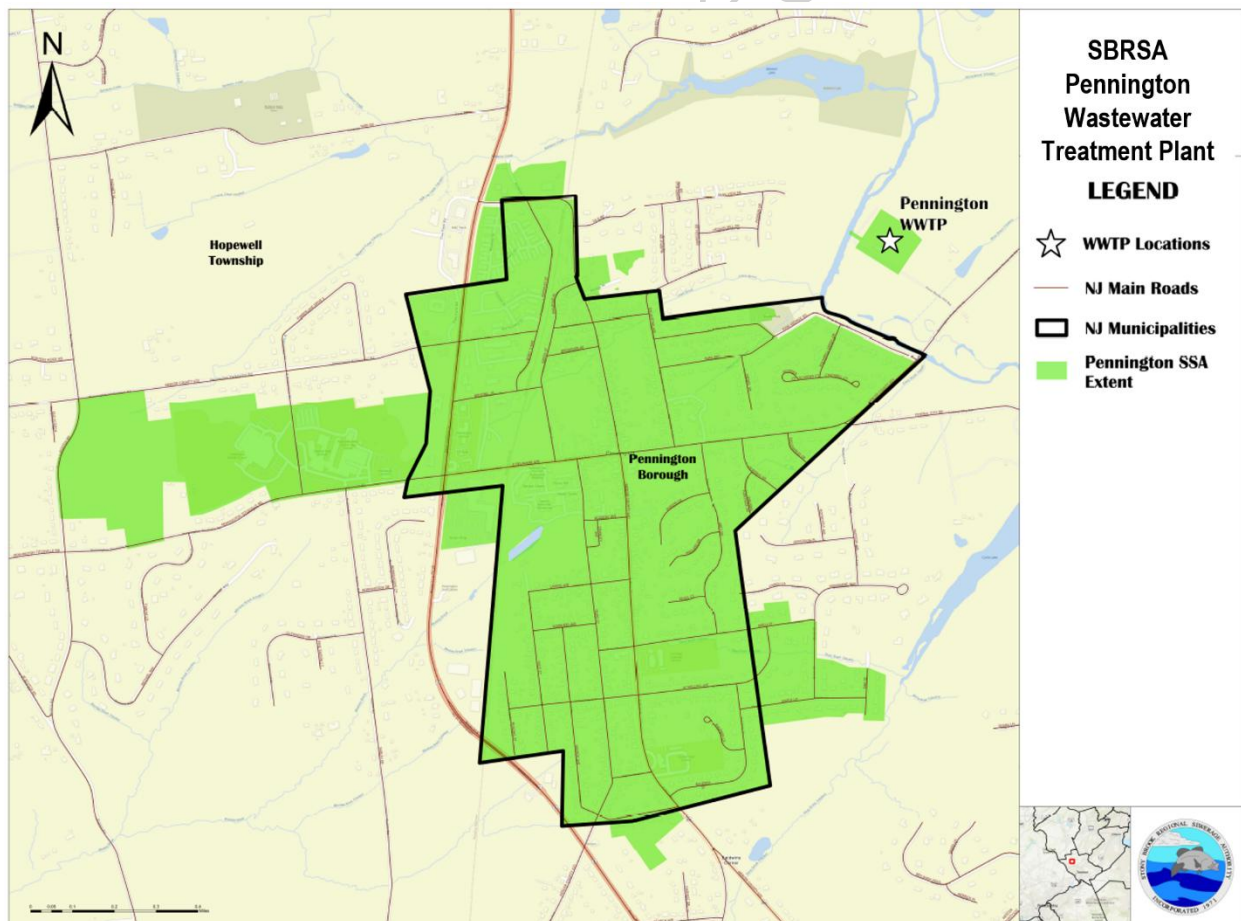
The required water and sewerage treatment capacity should be factored into the Housing Plan and Land Use Plan elements, as well as plans for redevelopment.

c. Sanitary Sewer System and Wastewater Treatment

The sanitary sewer collection system is owned and operated by the Borough under the direction of the Superintendent of Public Works as New Jersey licensed wastewater operator. The system provides sewerage connections to all properties in the Borough, and several properties in Hopewell Township. The system consists of 70,000 feet of sewer main, 315 manholes, five pump stations and an inverted siphon. The NJDEP has set no limit on the capacity of the Borough's collection system. The collector sewers have adequate capacity for their existing and currently planned future use. The sewer main system has a capacity of 1.7 million gallons per day (MGD).

The SBRSA-WWTP became operational in 1984. As of March 2025, the plant has a permitted design capacity of 0.445 MGD. The current 12-month daily average flow is 0.238 MGD. In 2024 the highest single day flow rate was 1.159 million gallons. The additional capacity currently available is 0.183 MGD, which allows for future development within the approved sewer service area (SSA). SBRSA accepts new applications to hook into their system (i.e., Treatment Works Approval applications) on a first-come, first-serve basis, provided the applicant is located within the SSA. Figure 1 shows the Pennington WWTP SSA.

Figure 1. SBRSA Pennington Wastewater Treatment Plant Sewer Service Area Map.



The SSA includes the entirety of Pennington Borough as well as Hopewell Valley Central High School and Timberlane Middle School property as far as Scotch Road, Pennington Market, the Hopewell Township part of Pennington Pointe, the Pennington Public Works complex, and the three streets, Birch, Maple and Oak off East Curlis Avenue in the Township. SBRSA is not typically involved in the municipal and county planning process. NJDEP regulations govern the establishment of the SSA, plant capacity, and Treatment Works Approvals.

The amount of sewage capacity required for a variety of residential, commercial and other buildings and facilities can be found in Table A1 in Appendix A. The table is based on the Projected Flow Criteria as set forth in Subchapter 23 of the New Jersey Pollutant Discharge Elimination System (NJPDES) Rules at N.J.A.C. 7:14A-23, found on the NJDEP Division of Water Quality Treatment website <https://dep.nj.gov/dwq/all-division-rules-and-regulations/njpdess/>. The table shows wastewater flow criteria for various development types such as single-family homes, duplexes, townhouses, condominiums and apartments with 1-3 bedrooms, restaurants, and various commercial facilities. This is useful for calculating wastewater flow requirements as the Borough strives to meet its affordable housing obligation. The values in the table can be used to determine the sewerage volume requirements for any residential or commercial developments in the Borough when making an application for a TWA pursuant to N.J.A.C. 7:14A-22. Should Pennington Borough require more wastewater treatment capacity than is available at Pennington WWTP, additional capacity must be formally requested from the SBRSA Board of Directors, who will determine if a plant expansion is warranted.

Note that the average daily flow in 1996 was 0.315 MGD. This flow included the actual wastewater flow plus surface water inflow, which is the flow of stormwater and elevated groundwater into the wastewater system. In the third quarter of 1996, the average daily flow at the plant exceeded the permitted plant capacity, and the SBRSA notified the Borough of the excursion. The Borough was aware of the magnitude of the surface water inflow since the mid-1990's and was already part way through a seven-step surface water inflow reduction program. In 1997, the average daily flow was reduced to 0.274 MGD because of the surface water inflow program, including the mainline grouting and the sump pump program, and to a reduction in rainfall over the region. The surface water inflow program continued and included mainline repairs and continued enforcement of the rule against sump pumps being connected to the wastewater system. The current average daily flow of 0.238 MGD speaks to the success of the Public Works surface water inflow program. However, the increasing age of the sewer system coupled with an increase in extreme rainfall events means that the Borough must continue to address surface water inflow.

d. Stormwater Management

The regulation of stormwater by the New Jersey Department of Environmental Protection (NJDEP) falls into three general categories:

1. Management of a municipal separate storm sewer system (MS4) to minimize and slow the flow of stormwater into the storm sewer system, to minimize pollution carried by stormwater and to ensure the storm sewer system is adequately designed and maintained. This is regulated in subchapters 24 and 25 of NJAC 7:14A, New Jersey Pollutant Discharge Elimination System (NJPDES) rules.

<https://dep.nj.gov/dwq/all-division-rules-and-regulations/njpdes/>

2. Management of stormwater runoff from new development and redevelopment in the municipality must meet standards for the management of water quantity, groundwater recharge, water quality and green infrastructure requirements, in consideration of the increasing severity of rainfall events due to climate change. This is regulated by N.J.A.C. 7:8 Stormwater Management.

<https://dep.nj.gov/wp-content/uploads/stormwater/n.j.a.c.-7-8.pdf>

3. Regulation of stormwater also impacts flooding. Development and disturbance within the regulatory Flood Hazard Area and associated riparian zones is addressed in the Flood Hazard Area Control Act rules at NJAC 7:13.

https://dep.nj.gov/wp-content/uploads/rules/rules/njac7_13.pdf

1. Municipal Separate Storm Sewer System MS4 (Tier A Permit)

The Clean Water Act (CWA) was developed in 1972 to expand on the Water Pollution Control Act of 1948. The CWA introduced the National Pollutant Discharge Elimination System (NPDES), an EPA permit program to reduce water pollution by regulating point sources of pollutants discharged into US waters. The EPA authorizes the program to state governments for permitting, administration, and enforcement.

The NJDEP manages the New Jersey Pollutant Discharge Elimination System (NJPDES) permitting program. It is designed to protect New Jersey's ground and surface water by assuring the proper treatment and discharge of wastewater and stormwater from various types of facilities and activities and reducing the amounts of pollutants which may be discharged. In 1990, Phase I addressed stormwater discharges from medium and large municipal separate storm sewer systems (communities of more than 100,000) and discharges associated with industrial activities. In 1999, Phase II came into effect to control pollution discharges from smaller municipal storm sewer systems, highway systems, and other sources. On January 5, 2004, the NJDEP adopted two (2) sets of stormwater rules to help reduce pollution levels caused by stormwater runoff and to help replenish groundwater supplies. From 2004, Municipal Separate Storm Sewer System (MS4) permits were required for most municipalities in the State, including Pennington.

The 1998 Borough Master Plan had recommended the development of a Stormwater Management Plan but the 2004 MS4 permit required the creation of a Municipal Storm Water Management Plan (MSWMP) developed based on the Stormwater Management rules. Pennington's MSWMP was adopted in May 2005. The Plan recommended updates of ordinances. As required by the NJDEP, the Borough of Pennington adopted its Municipal Stormwater Management Plan (MSWMP) in April/May 2005. The Plan addressed groundwater recharge, stormwater quantity, and stormwater quality impacts of large projects to minimize the adverse impact of stormwater runoff and the loss of groundwater recharge. Recommended changes to Chapter 163, Part IV 163-20 of the Borough Code were adopted by ordinance in July 2006. Municipalities are required to reexamine their plan at each subsequent reexamination of the master plan. The MSWMP was reviewed by the Borough Engineer for the 2013 Master Plan reexamination, and it was concluded that there were no required changes at that time. It was again reviewed in the 2023 Master Plan reexamination and updates were recommended.

The MS4 Tier A Permit requires a municipality to develop and maintain a stormwater pollution prevention plan (SPPP) to minimize stormwater-related pollution in the MS4 system. The preparation of an SPPP helps to identify potential sources of pollution and to establish best management practices (BMP) to eliminate such exposure. Pennington created its SPPP in 2020 and it can be found on the Borough website. It includes a map of storm sewer outfalls and a map of the storm sewer system. In 2025, Pennington Borough joined Princeton, Hopewell Township, and Lawrence Township in a collaborative effort to address stormwater management requirements for the Stony Brook Watershed. The Borough Council approved a resolution authorizing participation in this regional initiative to develop a comprehensive Watershed Improvement Plan (WIP). This will help Pennington's to maintain its MS4 Tier A permit.

Following a review of the Tier A permitting program in 2018, changes were made to align the program with updated federal guidelines. Tier B permits were eliminated, and all municipalities were required to meet Tier A requirements after a certain time. The Tier A permit was revised and expanded and came into effect in January 2023. The revised Tier A permit includes the new requirement for a WIP, which has three major deliverables: Watershed Inventory Report due by the end of December 2025, the Watershed Assessment Report due by the end of December 2026 and the Final Watershed Improvement Plan due by the end of November 2027.

2. Stormwater Management

Stormwater regulations have undergone significant changes in the last few years in response to major recent rainstorm events, and in anticipation of similar or more severe events in the future because of climate change. In our area, tropical storm Ida (September 1, 2021) deluged Hopewell Valley with more than 7.44 inches of rain in a 6-hour period, a 500-year storm. According to NJDEP rainfall studies, extreme rainfall events are expected to increase in frequency as the climate warms.

In March 2021, all municipalities in the State were required to adopt new comprehensive stormwater management ordinances consistent with NJDEP stormwater management rules. The new rules implemented more stringent requirements for stormwater control and promoted the use of nonstructural stormwater management techniques. The Borough adopted its new Stormwater Control Ordinance 2021-2 in April 2021. It adopted the best management practices for the use of stormwater management measures, including green infrastructure and nonstructural stormwater management strategies, and resulted in significant changes to Borough Code Chapter 163, Part IV, Tables 5 and 6 in 163-20.5.

The Borough's 2005 Stormwater Management Plan and the associated Borough Code were reviewed in the 2023 Master Plan reexamination, and it was noted that significant changes were likely to be needed soon as the NJDEP were holding discussions at the time of the report on changes to the stormwater management and flood hazard area control act rules. In July 2023, the Inland Flood Protection rules were adopted. These rules incorporated climate change science into the rules by requiring use of future rainfall amounts when designing for stormwater management. "Calculation of stormwater runoff and groundwater recharge" gives current and future multipliers to be used in New Jersey with NOAA rainfall predictions shown in Table 1 below.

As mentioned above, in 2025, Pennington Borough joined with Princeton, Hopewell Township, and Lawrence Township in a collaborative effort to address stormwater management requirements for the Stony Brook Watershed. The Borough Council approved a resolution authorizing participation in this regional initiative to develop a comprehensive Watershed Improvement Plan (WIP). The partnership will allow the four municipalities to share resources and expertise while working with a respected watershed management firm to collect essential technical data needed to meet state stormwater discharge requirements. Work on the project is expected to be completed by fall 2026, in advance of state deadlines for required reports. The resulting data and recommendations will help Pennington develop effective strategies to improve water quality, address pollutants, and mitigate flooding issues within the Stony Brook Watershed, benefiting both residents and the environment for years to come.

N.J.A.C. 7:8-4.3 (a) states that a municipality shall adopt a municipal stormwater management plan as an integral part of its master plan. Pennington's MSWMP has so far been a separate document from the Master Plan and has been included by reference. N.J.A.C. 7:8-4.3 (e) states that within one year of the adoption of a regional stormwater management plan, each municipality within the planning area shall amend their MSWMP and stormwater control ordinances to implement the regional plan.

For Pennington Borough, a critical element of any stormwater management plan is to eliminate the flooding that occurred along the course of Lewis Brook during the recent extreme storms Ida (2021) and Debby (2024) and is likely to occur in future extreme rainfall events. Floods occurred at several intersections, Route 31 and West Delaware Avenue, Green Street and Broemel Place, North Main Street and Brookside Avenue, and Eglantine Avenue and East Franklin Avenue. Flooding also occurred on the Blackwell property and in the back yards of houses on East Franklin Avenue and on Lewis Brook Road in Hopewell Township. The most likely cause of the flooding is that **previously installed stormwater management assets are inadequate to handle higher rainfall amounts and** the various bridges, tunnels, culverts and pipes through which Lewis Brook and its tributaries flow are too small for the higher levels of rainfall seen recently. All infrastructure improvements by the Borough, NJDOT or Mercer County to correct these should take into account how the resulting modified flow impacts infrastructure further downstream by using a hydrologic and hydraulic model for the entire reach of Lewis Brook **as such consideration is required by state regulations.**

Ida was an extreme storm event that caused significant flooding in Pennington Borough. An excellent report "Ida Remnants Strike New Jersey" by David A. Robinson, the NJ State Climatologist, dated Oct. 26, 2021, provided rainfall data in Hopewell Township for different periods during Ida, as shown in Table 2. Hopewell Township had some of the highest rain amounts in the state.

A major goal of the Watershed Institute led initiative is to reduce flooding and improve water quality along the course of Stony Brook and its tributaries. Addressing the issues on Lewis Brook should be included in the initiative for Pennington Borough. One option to improve water quality and reduce flooding would be to retain and delay the flow of stormwater runoff using stormwater best management practices (BMPs) such as stormwater detention basins and green infrastructure. Two possible locations for detention basins are at the landfill and at the

Blackwell property, with part of the Pennington School wooded area on Green Street adjacent to Lewis Brook.

Table 2. Tropical Storm Ida Remnants Rainfall, Sept 1-2, 2021

<https://climate.rutgers.edu/stateclim/?target=Ida>

Peak volumes recorded on September 1, with average recurrence intervals (ARI, see Table A2)

Peak 6-hour period: 7.44 inches ending 10:35 pm.	ARI 500 years
Peak 3-hour period: 5.90 inches ending 8:55 pm.	ARI 1000 years
Peak 2-hour period: 5.16 inches ending 8:40 pm.	ARI 1000 years
Peak 1-hour period: 3.29 inches ending 7:55 pm.	ARI 200 years
Hopewell Township total 9.13 inches	

Note that the time periods overlap. The peak 1-hour is included in the 2-, 3- and 6-hour.

It remains to be seen whether the new collaborative effort to address stormwater management for Stony Brook Watershed influences the decision on whether we should create a stormwater utility to pay for improvements and maintenance of the Borough's storm sewer system.

3. Flood Hazard Area Control

Three components of a flood hazard area are:

1. "Riparian zone" means the land and vegetation adjacent to a regulated water. Depending on the classification of the water, the extent of the zone from the stream bed can be 50, 150 or 300 feet.
2. "Floodway" means land which is mathematically determined to be needed for the channel and adjacent land to convey water resulting from a 100-year flood.
3. "Flood hazard area" means land which lies below the peak water surface elevation that will occur in a design flood. For a delineated water, this is 2 feet above the State delineation. For other streams it is 125% of the 100-year flood based on NOAA with future multipliers.

The adopted Flood Hazard Area Control Rules can be found in NJAC 7:13:

https://dep.nj.gov/wp-content/uploads/rules/rules/njac7_13.pdf

NJAC 7:13 Subchapter 3 gives six methods for determining the extent of the floodway and flood hazard area for rivers and streams in New Jersey. Method 1 applies to NJDEP delineated waters, while Method 2 applies to FEMA delineated waters. For waters that are both NJDEP delineated, and FEMA delineated, the flood hazard area is the higher of the elevations determined by Methods 1 and 2. Methods 5 or 6 would apply to Lewis Brook since it is not NJDEP or FEMA delineated. Method 6 is more accurate than the approximate Method 5 but requires a detailed study.

Method 1 for NJDEP delineated waters, which includes Stony Brook:

1. The flood hazard area design flood elevation shall be equal to two feet above the design flood elevation shown on the flood profile adopted as part of the Department delineation, unless subsequent to July 17, 2023, the Department revises a flood profile in accordance

with N.J.A.C. 7:13-3.8 to account for changes in flood elevations due to increased precipitation, in which case the flood hazard area design flood elevation is that which is shown on the revised flood profile;

2. The floodway limit is that which is shown on the flood maps adopted as part of the Department delineation.

As of May 2025, there have been no changes to Method 1.

In method 6 for a regulated water in a fluvial flood hazard area (such as Lewis Brook), the flood hazard area design flood elevation is determined as summarized here:

1. A hydrologic analysis shall be performed to determine the peak flow rate for the anticipated future 100-year flood for the regulated water using the “future” adjustment factors listed in Table 3.6B of NJAC 7:13 (the same as Table 5.6 in NJAC 7.8). It is 1.36 for Mercer County.
2. A hydraulic analysis, such as a standard step backwater analysis, shall be performed to determine the flood hazard area design flood elevation using 125 percent of the anticipated future 100-year peak flow rate determined pursuant in 1 above.

e. Recycling

In 1967 the Mercer County Improvement Authority (MCIA, www.mcianj.org) was created under the County Improvement Authorities Law to undertake certain projects for the benefit of the residents of Mercer County. The mission of the MCIA is to serve the needs of Mercer County and to improve the quality of life for the residents by providing programs and services for the County, Municipalities, school and fire districts, and not-for-profits in the areas of financing, project management, redevelopment, solid waste and recycling.

The MCIA oversees the proper disposal of Mercer County's solid waste and manages a curbside recycling program to ensure a cleaner and safer environment. The rules for recycling can be found on the MCIA recycling website (<http://mcianj.org/recycling>). The program collects clean and dry:

- Paper
 - Mixed Paper, Office Paper & Window Envelopes
 - Corrugated Cardboard (flatten boxes and/or cut into manageable bundles)
 - Telephone Books & “Soft” Cover Books
 - Hard Cover Books (Hard cover must be removed)
- Glass
 - Glass Food & Beverage Jars/Bottles (all colors)
- Aluminum and Metal
 - Aluminum & Metal Beverage Containers
 - Metal Cans
- Plastics with #1, #2, #5 Symbols
 - Milk Jugs & Plastic Beverage Bottles and beverage caps
 - Detergent & Shampoo Containers
 - Juice Boxes & Juice/Beverage Cartons
 - Yogurt, condiment and to-go containers
 - Amber colored medicine bottles.

The MCIA also organizes a Household Hazardous Waste and Electronic collection periodically at the Dempster Fire School, 350 Lawrence Station Road in Lawrenceville, and a Document Shredding event twice a year at 651 South Broad Street Parking lot 4 in Trenton.

Hopewell Township has an Electronics Collection and Paper Shredding event and a Metals collection event periodically, both at the Hopewell Township Public Works facility. Pennington Borough Residents may participate in this collection.

The Hopewell Valley Green Team organizes collections of a variety of items not on the MCIA list (May through October) in conjunction with the Pennington Farmers Market. The Green Team has also assembled a list of ways to recycle or dispose of many items that are not collected by MCIA, see: <https://hopewellvalleygreenteam.org/recycling/recycling-tips/> for tips and a schedule of collection dates. A link to their annual Reuse & Recycle in Hopewell Valley schedule can be found on this website. It contains web links to many organizations that will receive items for recycling or reuse.

The Pennington Borough Environmental Commission is currently looking for a program that will collect and compost food waste.

There are private companies that will assist municipalities with the management of waste that is not currently recycled such as scrap metal, various plastics, food waste and compost. Pennington will continue to explore ways to meet their goal of increasing the range of materials that can be recycled. This has the combined benefit of reducing the impact of waste on the environment while reducing the cost to the Borough of landfill tipping fees.

f. County Road and Bridge Maintenance – Mercer County Department of Public Works, Highway Division

The Superintendent of Public Works of Mercer County manages the operation of the Highway Division under the supervision of the County Administrator to enhance the quality of life for Mercer County residents by ensuring a safe, efficient and reliable transportation system.

The Division is responsible for 180 miles of County routes, handling ice control, snow removal, leaf pickup, deer carcass removal, pothole repairs, milling and resurfacing, asset condition management, and utility and contractor road work permit oversight. County roads in or feeding Pennington are CR 640 – Pennington Road, South and North Main Street, CR 546 – South Main Street to Lawrenceville-Pennington Road, CR 631 – Ingleside Avenue, CR 624 – Pennington-Titusville Road, West and East Delaware Avenue, and CR 623 – Pennington-Harbourton Road.

g. Electricity and Natural Gas

Background

In New Jersey, there are five electricity utility companies and four gas utility companies. To avoid overlap, the NJ Board of Public Utility Services (NJBPU) has defined the electricity and gas territories where the Utility Services can operate. Maps of the territories can be found on the

NJDEP GIS website: [Electric Utility Services Territory Map of New Jersey | NJDEP Open Data](#) and [Gas Utility Services Territory Map of New Jersey | NJDEP Open Data](#). Electricity is supplied to Pennington Borough by Public Service Electric and Gas (PSEG) and gas is supplied by Elizabethtown Gas (ETG).

New Jersey deregulated the energy utility industry in 1999, dividing energy services into supply and distribution. Customers can choose both electricity and gas providers and utility companies deliver them for a fee. Bills are split into two parts, energy and distribution. For each utility, there are many energy suppliers that a customer can select to provide electricity or gas. The website <https://nj.gov/njpowerswitch/suppliers/> is provided by the NJBPU to let residents and businesses know which third party suppliers (TPS) are licensed to sell electricity or gas in a utility's territory and inform them about the rules if a TPS is selected. If no TPS is selected, the utility becomes the supplier by default but will still list energy and distribution separately on their bills. Note that the Utility Services buy their electricity and gas from a variety of suppliers. As of May 2025, there were 80 choices of suppliers for electricity in the PSEG territory and 38 for gas in ETG territory.

Balancing the generation of electricity with customer demand is a complex process. Near constant voltage must be maintained to avoid damaging equipment (voltage too high or too low) or brownouts (too low) and the phase of the alternating current needs to be the same across all connected suppliers. The lower 48 states of the USA are divided into three interconnections;

- The Eastern Interconnection, covering the area east of the Rocky Mountains and a portion of the Texas panhandle.
- The Western Interconnection, covering the area from the Rocky Mountains to the west.
- The Electric Reliability Council of Texas (ERCOT), covering most of Texas.

These operate largely independently from each other with limited transfers of electricity between them. The Eastern and Western Interconnections in the United States are also linked with Canada's power grid. The interconnections help maintain the reliability of the grid by providing multiple routes for power to flow and allowing generators to supply electricity to many load centers. This redundancy helps prevent transmission line or power plant failures from causing interruptions in service to retail customers.

New Jersey is in the Eastern Interconnection and its real-time electricity supply is managed by PJM, a regional transmission organization <https://www.pjm.com>. PJM coordinates the movement of wholesale electricity across 13 states. It has over 1100 members, both suppliers and distributors, and manages the interconnectivity requests for new suppliers. Except for very high demand periods, there is more generation capacity available than is needed to meet demand. However, this is beginning to change as data centers and AI are starting to consume a large amount of electricity. At any point in time, suppliers are chosen through a time-based bidding process. Constantly available power such as nuclear and combined-cycle natural gas form the base of the supply, with intermittent (e.g., solar and wind) and higher cost peaking power coming lower down the order. Power can also come from storage such as pumped hydro (e.g. Yards Creek in NJ) and an increasing number of battery installations. Adding batteries to solar and wind plants moves them towards the constantly available power category and takes them up the order. The price charged for electricity by a utility is similar throughout the year as the peaks and troughs due to changes in short term demand are balanced out. This may not be the case with

smaller suppliers who may choose to pass on higher costs at peak periods to customers, The fine print in agreements should be read.

Gas supply is easier to manage than electricity as pressure (gas equivalent of voltage) can be managed by valves and pressure regulators. The gas is delivered by pipeline from wells in gas-producing locations after processing in gas plants to control delivered gas heat capacity and to remove toxins. Because of the extensive use of gas for heating, the demand for gas is much higher in the winter than in the summer. Across the country, winter demand is 33% higher than in summer. To keep the production of gas wells similar throughout the year, demand and supply are balanced by storing a portion of the gas produced in the summer and recovering it from storage for sale in the winter. About 85% is stored via wells in depleted natural gas or oil fields, 10% in aquifers and 5% in salt caverns. New Jersey has few natural gas reserves, does not produce natural gas, and does not have any large-scale gas storage. All the gas we use comes via pipelines from the gulf states or from Appalachian shale gas producers.

The above paragraphs are to give background for policies and goals for electricity and gas in Pennington Borough. The US Energy Information Administration is an excellent resource, and information about all forms of energy can be found at <https://www.eia.gov/energyexplained/> .

Policies and Goals for Electricity and Natural Gas

As a result of passing Resolution 2021-3.4 in March 2021, it is the policy of the Borough of Pennington to become carbon neutral in all its operations by 2035. The 4th component of the 2021 resolution committed the Environmental Commission to use the Borough's efforts to become carbon neutral to educate and encourage Borough residents and businesses to become carbon neutral. In 2025, the Borough received a grant from NJBPU to help the Environmental Commission develop a Community Energy Plan. The plan will create an inventory of energy use by type across the Borough, and the resulting carbon emissions. The plan will then make recommendations on how residents can move their energy usage from fossil fuels to zero-CO₂ sources. In most cases this means changing from natural gas to electricity for domestic heating and cooking and moving transportation to electric vehicles. Goals for this topic will be found in the Green Buildings and Environmental Sustainability Plan element.

The success of the program will depend in part on the success of New Jersey's policy to have its electricity generation be carbon neutral by 2035. Electricity is defined as secondary energy, because its CO₂ production depends on the primary energy sources used in its generation. Electricity generation in New Jersey results in about 0.5 lbs of CO₂ per kWh due to the input energy mix. This is more than the 0.4 lbs of CO₂ per kWh of heat from a modern high efficiency condensing gas furnace so converting before the NJ electricity generation drops below 0.4 lbs of CO₂ per kWh would be a step in the wrong direction. Pennington is committed to meeting goals that are science-based regardless of direction changes at the Federal level. Residents should be encouraged to keep the pressure on the state to move to carbon neutrality.

There are several ways to move Pennington's electricity use towards carbon neutrality regardless of the progress the state is making.

1. Encourage residents, **businesses and churches** to select “green-energy-only” suppliers from the list in the PSEG territory in the NJ Power Switch website above.
2. Encourage residents to sign up for Community Solar suppliers.
3. Reduce barriers to the installation of solar panels **on all Pennington Borough lots**.
4. Borough administration should reconsider a Government Energy Aggregation (GEA) program for Pennington (see <https://nj.gov/njpowerswitch/gea/>). A GEA program allows municipalities to aggregate the energy requirements of residential, commercial and municipal customers so they can purchase electricity (or gas) from a third-party supplier at reduced prices. The supplier should be chosen for its high renewable energy content.

h. Telecommunications

Internet, TV and Telephone

Internet and TV services can be provided in six ways. Three use direct connections to buildings; Fiber-optic uses light pulses through fine strands of glass and offers the fastest and widest bandwidth; Coaxial TV cable with a central copper wire uses electricity to deliver the signal and is generally not as fast and has a smaller bandwidth than fiber-optic; Older telephone wires can be used for DSL (Direct Subscriber Line) services, which are slower and limited in bandwidth but may have a lower installation cost and lower monthly fees. All three with direct connections can provide services to landline telephones. The three non-connected alternatives are direct wireless, satellite and via cell towers to handheld devices. Direct wireless uses a base station to transmit the internet over radio waves directly to a receiver located on the building. The receiver needs a good line of sight to the base station and the signal may be affected by the weather and distance from the station. Satellite services are often used in rural areas which are out of reach of fiber and cable services. It too can be affected by the weather. Finally, many people are “cutting the cable” altogether and opting for services from cell towers to mobile phones. Internet downloads can be slow unless the handheld device can connect to Wi-Fi. With 5G, speeds are improving.

Cable services are delivered to Pennington residents via the utility poles, which are owned by PSEG. The larger cables at the top of the poles deliver electricity. Lower down the poles are fiber-optic, coaxial cables and telephone wires. Service providers pay fees to the utility to use the poles. Pennington is served by eight TV and internet providers, four of which have 100 % coverage and four have partial coverage.

There are several cell phone service providers in Pennington. Service is generally reliable but there are pockets where one provider has a better signal than another.

Regulation of Wireless Telecommunication Facilities

There have been two recent changes to the regulation of wireless telecommunication facilities. The first, a federal law, prohibits municipalities from denying a request by an “eligible facility” to modify an existing wireless tower or base station if such a change does not “substantially change” the physical dimensions of the tower or base station. The term “substantial change” is

not defined by the law. Until regulation or case law is issued on this topic, the Borough will need to carefully interpret this on a case-by-case basis.

The second regulatory change is an amendment to the Municipal Land Use Law, N.J.S.A. 40:55D- 46.2. This new section states that applications for collocated equipment on a wireless communications support structure shall not be subject to site plan review provided three requirements are met: 1) the structure must have been previously approved; 2) the collocation shall not increase the overall height of the support structure by more than 10 percent, will not increase the width of the support structure, and shall not increase the existing equipment compound to more than 2,500 square feet; and 3) the collocation shall comply with all of the terms and conditions of the original approval and must not trigger the need for variance relief. Borough ordinances should be revised to reflect federal law.

It is anticipated that providers of fifth-generation wireless technology (“5G”) will seek to install wireless facilities, typically on utility poles and lampposts, throughout the region. 5G offers subscribers much faster data speeds and, with that, new and enhanced technological capabilities. The Borough should take appropriate steps to control and regulate the implementation of 5G technology by adopting ordinances which implement processes and regulate, among other things, the size, location, and appearance of 5G wireless facilities.

4. Relationship with Regional Utility Plans

a. Hopewell Township Master Plan

Hopewell Township approved its current Utility Services Plan element on November 19, 2009. (<https://www.hopewelltp.org/DocumentCenter/View/8622/Utility-Services-Plan-Element---Adopted-November-19-2009->)

The plan covered the lack of interest in developing public sewers throughout the Township due to the concern that it would bring uncontrolled growth. Sewers for larger individual developments are connected to Ewing Lawrence Sewerage Authority (ELSA) and Stony Brook Regional Sewerage Authority (SBRSA). Similarly, there was no interest in a township wide water supply. The plan acknowledged that there were a few residences on the borders of Hopewell and Pennington Boroughs that were connected to the borough systems. Larger developments are served by the NJ American Water Company.

There was no mention of Utility Services in the 2021 Master Plan Reexamination report. There was also no mention of other services besides sewer and water in the Township Master Plan.

b. Mercer County Master Plan

Mercer County adopted a Wastewater Management Plan (WMP) in October 2013. (<https://www.mercercounty.org/home/showpublisheddocument/1154/636058398453800000>)

The plan reports that Pennington Borough adopted its own WMP on October 8, 2009, and incorporated it by reference. According to the County WMP, the Pennington Borough WMP

expired on October 8, 2015. The Mercer County Planning Department submitted an update to the Mercer County WMP, as required by the NJDEP, six years from the date of adoption of the current plan, i.e., October 9, 2019. As part of that process, the three municipalities (including Pennington) which had previously been working from their own adopted municipal WMPs joined the county-wide WMP. The county-wide WMP update is currently under review by NJDEP. Until the update is adopted, the 2013 Mercer County WMP and associated Sewer Service Area (SSA) mapping remain in full force and effect. See: (<https://www.mercercounty.org/departments/planning/wastewater-management-planning>)

Mercer County is in the process of developing a Stormwater Management Plan, but its website only contains a link to the NJ Plan, see below. Mercer County is not involved in the purveyance of potable water and does not have a potable water plan.

c. New Jersey Department of Environmental Protection Water Quality Management Planning (<https://www.nj.gov/dep/wqmp/index.html>)

The role of the program is to advance Water Quality Management through the coordination of planning and permitting activities. This will be achieved through the following efforts:

- Technical Support: Working with counties and private property owners on Sewer Service Area amendments, Wastewater Management Plans, consistency assessments and other related water quality management planning issues;
- Planning and Implementation: Managing water quality planning grants; overall statewide water quality planning through the Continuing Planning Process;
- Coordination: Coordinating activities among The Division of Water Quality, The Division of Water Supply and Geosciences, Land Use Management, other DEP programs, the regulated community and planning agencies across the state.

The Water Quality Management Rule, N.J.A.C. 7:15, is effective as of November 7, 2016.

5. Relationship with Other Plan Elements in the Master Plan

The Utility Services Plan impacts and is impacted by other Master Plan elements as follows:

Land Use Plan Element. This plan relates to the Borough's zoning and potential redevelopment areas. Utility needs will be impacted by the Borough's development and redevelopment plans and the ability to redevelop or develop is also contingent on the capacity of various utilities. Stormwater hazards are addressed in the Climate Change-Related Hazard Vulnerability Assessment (CCRHVA), which is part of the Land Use Plan.

Housing Plan Element. The Borough has identified areas of redevelopment which have the opportunity for high density housing, including housing that is designated affordable. The ability of utility services to serve this development/redevelopment must be evaluated as well as the impact of these developments on existing Utility Services.

Economic Development Plan Element. This Plan considers all aspects of commerce and economic development in the Borough, some of which may impact Utility Services.

Conservation Plan Element. The Conservation Plan incorporates the Borough's Community Forestry Management Plan by reference and impacts the Department of Public Works.

Green Buildings and Environmental Sustainability Plan Element (GBESE). Several goals and strategies in the GBESE are aimed at reducing the Borough's contributions to climate change. The GBESE includes the Community Energy Plan, which is under development, and a significant part of that plan is focused on transportation energy use and greenhouse gas emissions via electrification. This will increase the demand for electricity, which will need to be matched by a growth in PSEG supply.

Revised

Appendix A

Figure A1. NJ DEP table of water treatment capacity requirements for various sewerage sources. From Subchapter 23 of the N.J.A.C. 7:14A New Jersey Pollutant Discharge Elimination System (NJPDES) Rules.

<https://dep.nj.gov/dwq/all-division-rules-and-regulations/njpdess/>.

Type of Establishment	Measurement Unit	Gallons Per Day
<i>Residential Dwellings</i> (single family home, duplex units, townhouses, condominiums, apartments)		
1 bedroom unit	Per Dwelling	150
2 bedroom unit	Per Dwelling	225
3 bedroom unit or larger	Per Dwelling	300
1 bedroom unit (age restricted)	Per Dwelling	110
2 bedroom unit (age restricted)	Per Dwelling	170
3 bedroom unit (age restricted)	Per Dwelling	225
<i>Transit dwelling units</i>		
Hotels	Bedroom	75
Lodging houses and tourist homes	Bedroom	60
Motels and tourist cabins	Bedroom	60
Boarding houses (max. permitted occupancy)	Boarder	50
<i>Camps</i>		

Figure A1 (continued)

Campground/mobile rec. vehicle/tent	Site	100
Parked mobile trailer site	Site	200
Children's camps	Bed	50
Labor camps	Bed.	40
Day camps--no meals	Person	15
<i>Restaurants (including washrooms and turnover)</i>		
Average restaurant	Seat	35
Bar/cocktail lounges	Seat	20
Fast food restaurant	Seat	15
24 hour service restaurant	Seat	50
Curb service/drive-in restaurant	car space	50
<i>Clubs</i>		
Residential	Member	75
Nonresidential	Member	35
Racquet club	(per court per hour)	80
Bathhouse with shower	Person	25
Bathhouse without shower	Person	10
<i>Institutions (includes staff)</i>		
Hospitals	Bed	175
Assisted living facility	Bed	100
Skilled nursing facility	Bed	75
Other institutions	Bed	125
<i>Schools (includes staff)</i>		

Figure A1 (continued)

No shower or cafeteria	Student	10
With cafeteria	Student	15
With cafeteria and showers	Student	20
With cafeteria, showers and laboratories	Student	25
Boarding	Student	75
<i>Automobile service stations</i>		
	per filling position	125
Service bays	per bay	50
Mini-market	Sq. Ft.	0.100
<i>Miscellaneous</i>		
Office buildings (gross area)	Sq. Ft.	0.100
Stores and shopping centers (gross area)	Sq. Ft.	0.100
Factories/warehouses (add process wastewater)	Employee	25
with showers, (add process wastewater)	Employee	40
Laundromats	Per machine	580
Bowling alleys	Alley	200
Picnic Parks (restrooms only)	Person	10
Picnic Parks with showers	Person	15
Fairgrounds (based upon average attendance)	Person	5
Assembly halls	Seat	3
Airports (based on passenger use)	Passenger	3

Figure A1 (continued)

Churches (worship area only)	Seat	3
Theater (indoor)	Seat	3
Dinner theater	Seat	20
Catering/Banquet Hall	Person	20
Sports stadium	Seat	3
Visitor Center	Visitor	5
Multi-member swimming pool	Person	15

Revised

Figure A2. Precipitation frequency (PF) estimates for Pennington from NOAA’s National Weather Service Hydrometeorological Design Studies Center with average recurrence intervals (ARI). https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=nj
 PF estimates are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval.

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.340 (0.309-0.376)	0.406 (0.369-0.448)	0.482 (0.436-0.532)	0.538 (0.486-0.593)	0.606 (0.544-0.668)	0.656 (0.586-0.724)	0.706 (0.628-0.780)	0.752 (0.665-0.833)	0.809 (0.709-0.901)	0.853 (0.741-0.956)
10-min	0.543 (0.493-0.600)	0.649 (0.589-0.716)	0.772 (0.698-0.852)	0.860 (0.777-0.948)	0.966 (0.867-1.06)	1.04 (0.934-1.15)	1.12 (0.997-1.24)	1.19 (1.05-1.32)	1.28 (1.12-1.43)	1.34 (1.17-1.50)
15-min	0.679 (0.617-0.750)	0.816 (0.741-0.901)	0.977 (0.883-1.08)	1.09 (0.983-1.20)	1.22 (1.10-1.35)	1.32 (1.18-1.46)	1.42 (1.26-1.57)	1.50 (1.33-1.67)	1.61 (1.41-1.79)	1.69 (1.46-1.89)
30-min	0.931 (0.845-1.03)	1.13 (1.02-1.24)	1.39 (1.26-1.53)	1.58 (1.42-1.74)	1.81 (1.63-2.00)	1.99 (1.78-2.20)	2.17 (1.93-2.40)	2.34 (2.07-2.59)	2.56 (2.25-2.86)	2.73 (2.37-3.06)
60-min	1.16 (1.05-1.28)	1.41 (1.28-1.56)	1.78 (1.61-1.96)	2.05 (1.85-2.26)	2.42 (2.17-2.66)	2.70 (2.41-2.98)	2.99 (2.66-3.30)	3.28 (2.90-3.64)	3.68 (3.22-4.10)	3.99 (3.46-4.47)
2-hr	1.41 (1.27-1.56)	1.72 (1.55-1.90)	2.17 (1.96-2.40)	2.52 (2.27-2.78)	3.00 (2.69-3.31)	3.39 (3.02-3.74)	3.79 (3.35-4.19)	4.20 (3.69-4.65)	4.78 (4.15-5.32)	5.23 (4.50-5.86)
3-hr	1.55 (1.40-1.72)	1.88 (1.70-2.10)	2.39 (2.15-2.66)	2.78 (2.50-3.09)	3.33 (2.97-3.70)	3.77 (3.35-4.19)	4.24 (3.73-4.72)	4.72 (4.12-5.27)	5.40 (4.64-6.05)	5.94 (5.05-6.69)
6-hr	1.96 (1.77-2.19)	2.38 (2.14-2.65)	3.00 (2.70-3.35)	3.51 (3.14-3.90)	4.25 (3.77-4.72)	4.86 (4.28-5.40)	5.52 (4.82-6.14)	6.23 (5.38-6.94)	7.26 (6.15-8.13)	8.11 (6.78-9.14)
12-hr	2.37 (2.15-2.66)	2.88 (2.60-3.22)	3.66 (3.29-4.09)	4.32 (3.87-4.82)	5.31 (4.70-5.91)	6.16 (5.41-6.87)	7.10 (6.16-7.91)	8.14 (6.95-9.10)	9.69 (8.11-10.9)	11.0 (9.06-12.5)
24-hr	2.74 (2.52-2.99)	3.31 (3.05-3.62)	4.21 (3.87-4.60)	4.97 (4.55-5.42)	6.10 (5.55-6.65)	7.08 (6.38-7.70)	8.15 (7.28-8.87)	9.33 (8.25-10.2)	11.1 (9.65-12.1)	12.6 (10.8-13.8)
2-day	3.17 (2.92-3.47)	3.84 (3.53-4.21)	4.88 (4.48-5.35)	5.75 (5.26-6.29)	7.02 (6.37-7.65)	8.09 (7.29-8.81)	9.25 (8.27-10.1)	10.5 (9.31-11.5)	12.4 (10.8-13.6)	13.9 (12.0-15.3)
3-day	3.36 (3.10-3.67)	4.06 (3.74-4.44)	5.14 (4.73-5.61)	6.03 (5.52-6.57)	7.31 (6.66-7.95)	8.39 (7.60-9.11)	9.54 (8.58-10.4)	10.8 (9.62-11.8)	12.6 (11.1-13.8)	14.1 (12.3-15.5)
4-day	3.55 (3.28-3.86)	4.29 (3.96-4.67)	5.40 (4.98-5.87)	6.30 (5.80-6.85)	7.61 (6.95-8.25)	8.68 (7.90-9.41)	9.84 (8.89-10.7)	11.1 (9.93-12.0)	12.8 (11.4-14.0)	14.3 (12.6-15.6)
7-day	4.16 (3.85-4.52)	5.00 (4.62-5.43)	6.20 (5.72-6.74)	7.19 (6.62-7.81)	8.61 (7.89-9.33)	9.79 (8.93-10.6)	11.0 (10.0-12.0)	12.4 (11.2-13.4)	14.3 (12.7-15.6)	15.9 (14.0-17.3)
10-day	4.74 (4.42-5.12)	5.67 (5.27-6.12)	6.93 (6.44-7.48)	7.95 (7.37-8.58)	9.39 (8.67-10.1)	10.6 (9.71-11.4)	11.8 (10.8-12.7)	13.0 (11.9-14.1)	14.8 (13.4-16.1)	16.3 (14.6-17.7)
20-day	6.41 (6.02-6.83)	7.60 (7.14-8.10)	9.08 (8.52-9.68)	10.2 (9.60-10.9)	11.8 (11.1-12.6)	13.1 (12.2-13.9)	14.3 (13.3-15.2)	15.6 (14.4-16.6)	17.3 (15.8-18.5)	18.6 (16.9-19.9)
30-day	7.98 (7.55-8.43)	9.42 (8.91-9.95)	11.0 (10.4-11.6)	12.2 (11.6-12.9)	13.9 (13.0-14.6)	15.1 (14.2-15.9)	16.3 (15.3-17.2)	17.5 (16.3-18.5)	19.0 (17.7-20.2)	20.2 (18.7-21.5)
45-day	10.2 (9.66-10.7)	12.0 (11.4-12.6)	13.8 (13.1-14.5)	15.2 (14.4-15.9)	16.9 (16.0-17.8)	18.2 (17.2-19.2)	19.5 (18.3-20.5)	20.6 (19.4-21.8)	22.1 (20.7-23.4)	23.2 (21.7-24.5)
60-day	12.2 (11.6-12.8)	14.3 (13.6-15.0)	16.3 (15.5-17.1)	17.8 (17.0-18.7)	19.7 (18.7-20.7)	21.1 (20.0-22.2)	22.4 (21.2-23.5)	23.6 (22.3-24.8)	25.1 (23.6-26.4)	26.1 (24.5-27.5)

Notes on this Revised Draft of the Community Facilities and Services Plan

This revised draft of the Community Facilities and Services Plan element will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the Community Facilities and Services Plan element, the following issues were identified:

1. Services: There was not a clear distinction between services provided by the Public Works Department, which are described in detail in Utility Services Plan, and services provided by other entities. This revision corrects that.
2. Document structure: The earlier version of the Plan element did not provide a clear distinction between Borough-owned facilities and Borough-provided services and facilities and services provided by independent entities. The major sections were retitled, and some subsections were relocated to clarify this distinction.
3. Omission: A reviewer correctly noted that the former landfill should have been included as a Borough-owned facility. New subsection 3.1.5. was added to correct this oversight.
4. Edits: As a result of reviewer comments, edits were made to enhance clarity. Thanks go to Kati Angerone for her thorough review of the element and for pointing out the structural deficiencies in the conditionally adopted draft.

[These notes are for information only and will not appear in the final version of the element.]

**BOROUGH OF PENNINGTON
NEW JERSEY**

MASTER PLAN

6. Community Facilities and Services Plan Element, Revised

The final draft of the Community Facilities and Services Plan from the element writing team was conditionally adopted by the Planning Board on April 9, 2025, and posted on the Borough website for public comment.

This revised version includes updates based on public comments and changes based on comparison of all elements to ensure consistency. These are highlighted in yellow. It will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

Contents

- 1. Introduction**
- 2. Community Facilities and Services Plan Vision and Goals**
- 3. Borough Facilities and Services**
- 4. Other Facilities and Services**
- 5. Open Space in Pennington for Recreation**
- 6. Relationship with Regional Community Facilities Plans**
- 7. Relationship with Other Plan Elements in the Master Plan**

Thanks go to the following people who helped create the Community Facilities and Services Plan element: Chair Ryan Schwab, Suzanne Elliott, Allison Neary, Kate O'Neill, Rob Ingram, Roger Demareski, and Andy Jackson. Thanks also to Kati Angerone for her thorough and insightful editing.

1. Introduction

The Municipal Land Use Law (MLUL) includes a Community Facilities Plan as a permitted Master Plan element. N.J.S.A. 40:55D-28(4) describes the element as follows:

“A community facilities plan element showing the existing and proposed location and type of educational or cultural facilities, historic sites, libraries, hospitals, firehouses, police stations and other related facilities, including their relation to the surrounding areas.”

This element, which is entitled Community Facilities and Services Plan, shall serve as a catalog of not only facilities but also services available to Borough residents and businesses and presents goals for improvement. The Plan is based on a review and evaluation of the Community Facilities Plan of the 1998 Pennington Borough Master Plan and of the 2005, 2013 and 2023 Master Plan Reexamination reports. The writing team also reviewed Community Facilities Plan elements from nearby communities.

The vision and goals for the Community Facilities and Services Plan are a subset of the overall Master Plan vision and goals developed by the Master Plan Committee (MPC) and the Citizens Advisory Committee (CAC). The CAC is composed of 15 volunteers appointed by the Mayor on October 4, 2023. As set forth in New Jersey MLUL N.J.S.A. 40:55D-27a, the role of the CAC is to assist the Planning Board in its duties. Here, the CAC was assigned to work with the MPC to help develop the various elements of the Master Plan. In addition, CAC members served as community contacts, obtaining feedback and buy-in as the Plan elements were developed.

In the fall of 2023, the MPC and CAC worked together to develop the vision and goals for the updated Master Plan. Their report was reviewed, modified and endorsed by the Planning Board in a public meeting on January 10, 2024. The modified vision and goals were presented to the public at an Open House at Borough Hall on April 10, 2024. Revisions were made, based on feedback from the public. The resulting list of draft goals was distributed to the teams developing the Master Plan elements as a guide for their discussions. The community facilities and services goals in that report were the starting point for the Community Facilities and Services Plan element writing team.

2. Community Facilities and Services Plan Vision and Goals

This Plan includes data on municipal facilities, other non-municipal facilities that may be available for public use, parks and recreation, schools, and churches, and services they provide.

Pennington Borough has an extensive range of community facilities to serve its population. The Borough Administrator undertakes an annual review of Borough needs with respect to community facilities and services in collaboration with the Hopewell Valley Office of Emergency Management and Borough Council to ensure facilities and services are properly functioning and have the capacity for the forecasted annual usage. Many facilities have been upgraded over the course of the last decade to reflect Americans with Disabilities Act requirements and other needs.

According to the 2020 Census, Pennington Borough had a population of 2,800 people. With limited vacant land and little opportunity for new development, no major additions to, or expansion of the existing community facilities are anticipated. However, it may be necessary to consider renting some nearby space or repurposing other borough buildings if needs arise.

Pennington Borough works to ensure equitable access to community facilities and services, and to provide these for people of all ages, races and ethnicities, gender identities, religions, abilities, and socioeconomic status. The Borough will enhance the physical and mental wellness of its residents by creating meaningful opportunities for social connections, culture, learning, and leisure, and by supporting the availability of public and private facilities and services in the community.

Goals for community facilities and services:

1. With the renovation of Borough Hall and the modern Public Works facility, the community is well positioned to provide municipal services. However, Borough Hall space is limited and may not be adequate for the proper functioning of some departments. The Borough should continue to evaluate facilities and services annually for function and future capacity to support all services. It may be necessary to consider renting some nearby space or repurposing other borough buildings.
2. The Borough should communicate with the community on the availability of the services it provides. This communication should be kept current and occur via multiple modes. It is especially important that community members understand the roles of various departments in the Borough and Hopewell Valley in the event of an emergency.
3. Emergency services, including fire, ambulance and medical services, evacuation plans, local shelters and emergency communications should be reviewed annually to ensure that the needs of Pennington and the region are met now and in the future. Emergencies to be prepared for include rainstorms and flooding, snowstorms and ice storms, strong winds, tornados, wildfires, extreme heat, extreme cold, train derailments, and pandemics. A long-term and sustainable replacement for the Emergency Medical Services should be prioritized.
4. Pennington Borough should consider becoming a National Weather Service StormReady municipality and work the Hopewell Valley Office of Emergency Management to offer a comprehensive StormReady environment in Hopewell Valley. Consideration should be made to implement Outdoor Warning Sirens to ensure multiple layers of alerts.
5. The Senior Center on Reading Avenue may become redundant when the regional Community Center on Reed Road is opened. Alternate uses will need to be found, as outlined in the Land Use Plan and Housing Plan elements.
6. Pennington should have a place that provides opportunities for learning, social connections, culture, and leisure for all. It should be rich in arts, community activities, and entertainment. Although the proposed new community center on Reed Road may provide opportunities, the

Borough should provide them in town by fostering partnerships and developments that can serve all segments of the community, especially those who cannot drive.

7. To support community activities, the Borough should keep an updated list of public and private indoor and outdoor facilities that are willing to host activities, such as community events, youth and adult sports, meetings of volunteers, book clubs, art shows, etc. Helping residents find facilities that meet their needs will bring the community together in shared activities.
8. Church attendance is in decline and some of the churches in the Borough may close or consolidate. These buildings are often historic and to preserve the Borough's history, while providing community facilities, the Borough should encourage repurpose rather than demolition of these buildings.
9. The Borough should encourage the development or revitalization of daycare services to help families to be able to live in Pennington.

3. Borough Facilities and Services

3.1. Borough Facilities

3.1.1. Pennington Municipal Building (Borough Hall)

(<https://www.penningtonboro.org>)

Borough Hall is located at 31 North Main Street. It houses a conference room that can be used for in-person meetings of the Council and of the various Boards, Commissions and Committees of Pennington Borough. The conference room also serves as the Municipal Court, a local court whose procedures are governed by New Jersey Court rules. Borough Hall also contains offices for the Mayor, the Borough Administrator and the Borough Clerk, and a work area for employees of the various municipal departments including the Tax Collector, Tax Assessor, Land Use Administrator, Zoning Officer, Building and Construction officials, Public Works, Board of Health, and the Office of Emergency Management. Borough Hall also houses the Police Station and the independent Public Library. It is equipped with auxiliary power.

3.1.2. Public Works Building

(<https://www.penningtonboro.org/department-public-works>)

The Department of Public Works (DPW) is located on North Main Street on a lot in Hopewell Township owned by Pennington Borough. The lot also includes a PSE&G solar farm with a battery backup system, which provides electric power to the grid and provides power to the Public Works building. The building and parking lots store all equipment for garbage and other waste collection, and for the maintenance of Borough-controlled roads, water system (including fire hydrants), sewer collection system, stormwater infrastructure, Borough-owned buildings and grounds, parks, streams and catch basins, and shade trees within the Borough right-of-way. The maintenance of DPW vehicles and equipment is conducted at the Public Works building,

whenever feasible. Further information on Public Works services and facilities, including the sites of water wells and sewer pumps can be found in the Utility Services Plan element of the Master Plan.

3.1.3. Senior Center

The Hopewell Valley Senior Center on Reading Street is supported by Hopewell Valley Senior Services (HVSS), which serves seniors from Pennington Borough, Hopewell Borough and Hopewell Township. Activities are organized by HVSS and those at the Reading Street facility include Artists' Choice and Collage, Social Bridge, Games, Knitting Club, and Mahjong. Other activities open to Pennington seniors take place at the Hopewell Township Building, the Mercer County Library and the Hopewell Borough Library. Additionally, the Mercer County Nutrition Program for Older Adults provides ready-to-eat meals at the Reading Street facility.

Hopewell Township is in the design stage of a multipurpose building off Reed Road to serve primarily as a senior and community center, with integrated fitness and wellness facilities for residents of the Hopewell Valley (i.e., Hopewell Township, Hopewell Borough and Pennington Borough). The new center will also have office space for non-profit organizations. Outdoor amenities envisioned include an outdoor pool, passive and active recreation areas, a walking nature trail, and a community garden. No date has been set for completion, but when it is opened, the current Senior Center may become obsolete, and the facilities and lot will be re-envisioned.

3.1.4. Pennington Parks

Pennington has four public parks for active and passive recreational use, covering 11.8 acres of Borough land (see Table 2 in Section 3c, which also includes details of additional open space in the Borough). The largest at 7.5 acres is Kunkel Park, bordered by Lewis Brook, Stony Brook and King George Road. It has a meeting and events shelter, playgrounds and a sand pit. The D&R Greenway Pennington Loop Nature Trail through the Baldwin State Wildlife Management Area can be accessed from the north side of the park. The Eileen M. Heinzl Arboretum sits on 2.7 acres of woodlands east of Toll Gate Grammar School. It was purchased from HVRSD in 2022 and work to create the arboretum is being conducted by volunteers guided by the Pennington Environmental Commission. There is a 1.1-acre children's park with playground equipment on Sked Street. There is also a 0.5-acre space with a gazebo at the corner of Knowles Street and Broemel Place which is known as Veterans Memorial Park. The parks are maintained by Public Works and improvements may be funded by grants or from the Borough's Open Space Fund.

3.1.5. The Closed Landfill

A closed municipal landfill sits on 7.6 acres to the west side of the CSX railroad tracks, bounded by West Delaware Avenue to the south and Broemel Place to the north. It was operated from 1954 to 1980. In 1972, the Borough reported the following refuse streams by volume: household (75%), commercial (8.3%), landscape (12.5%), construction (2.1%) and bulky items (2.1%). According to the records, liquids, sewage sludge, septic tank waste, chemicals, agricultural waste and oils were excluded from the landfill. The volume of waste is estimated to be 65,000 cubic

yards, or about 15,000 tons. The landfill has been the subject of several environmental studies. The site is managed by Public Works and contains a disused garage and a storage area for construction and other materials. It also is the site of Borough water well #6.

Adjacent to the southwest corner of the landfill is a 0.2-acre lot with an old water tank and a building that used to be the Public Works Director's office. At the northwest corner is a 0.6-acre lot that used to belong to Nassau Oil Company. The three lots have been declared an Area in Need of Redevelopment by the Borough Council. A stone road runs north-south across the property. According to a 1950 Fire Map, a tributary of Lewis Brook ran diagonally across the landfill lot but in the early days of the landfill it was diverted to a ditch along the west side of the lot, to a culvert under the stone road, and then east to the tunnel under the railroad tracks.

The northeast side of the landfill is bounded by the Fire House and the First Aid Squad buildings and lots. As discussed in Section 6.1 below, the Hopewell Township Community Facilities Plan states that "The Fire District is developing a plan for the construction of a building in the Municipal Services Complex to house Fire District administrative offices, equipment storage, rescue vehicles and emergency response. As residential and non-residential development proceeds towards build-out, the Fire District may also need to re-evaluate its operations and the need for additional facilities." As noted in Sections 4.1 and 4.2 below, this may result in the fire house and EMS building becoming redundant. If these were added to the three lots currently in the area in need of redevelopment, the area would increase from 8.3 to about 9.4 acres, increasing the potential value to a developer. In view of the recent increases in land value in Pennington, the Borough should consider returning the property to greenfield status by transferring the contents of the landfill to a modern, lined landfill such as the GROWS landfill in Morrisville PA, where Pennington's current waste goes via the Mercer County transfer station.

3.2. Borough Services

Details on Services provided within the Borough by the Department of Public Works can be found in the Utility Services Plan element of the Master Plan. These include:

1. Operation, management and maintenance of the Pennington Water Department, a public water system, including water supply infrastructure, such as water supply wells, water treatment and water distribution system (i.e., water mains, valves, towers, hydrants, etc) for the provision of safe and adequate water supply and fire protection for residents, businesses and municipal buildings.
2. Operation, management and maintenance of the wastewater collection system and delivery to the Stony Brook Regional Sewerage Authority (SBRSA) Pennington Treatment Plant.
3. Operation, management and maintenance of Borough-owned or controlled stormwater infrastructure (i.e., pipes, inlets, basins, etc.) and provision of stormwater management consistent with applicable federal and state laws.
4. Borough road repairs and maintenance.
5. Snow removal from Borough Streets and Borough owned or controlled properties.
6. Maintenance of Borough Trees, as defined in the Borough's Community Forestry Management Plan developed by the Shade Tree Committee.

7. Garbage collection, including additional fee-based services for bulk waste.
8. Leaves, branches, and lawn and yard waste collection.

The Utility Services Plan also presents details of services provided to the Borough by others:

1. Recycling by the Mercer County Improvement Authority
2. County road maintenance, including leaf and snow removal, by the Roads Section of the Mercer County Department of Transportation & Infrastructure
3. Electricity from Public Service Electric and Gas (PSE&G).
4. Natural Gas from Elizabethtown Gas
5. Telecommunications by Verizon and others.

Services provided to Borough residents and businesses by entities other than the Department of Public Works are described below.

3.2.1. Police Services

(<https://www.penningtonboro.org/police>)

The Pennington Police Department is responsible for enforcing local and state laws with respect to motor vehicles and enforcing the New Jersey criminal code. Police headquarters are located within the Municipal Building on North Main Street. This space houses offices, a holding cell, an evidence room and break rooms.

Police equipment in 2025 included the following:

- 4 Marked police vehicles
- 1 Unmarked police vehicle

Pennington Borough has shared service agreements with Hopewell Township and Mercer County for Emergency 911 and Dispatch. The Department's authorized complement of officers and dispatchers is supplemented by civilians and crossing guards.

3.2.2. Emergency Management

(<https://www.hopewellpolicenj.gov/divisions/oem>)

Hopewell Valley has a regional Office of Emergency Management (OEM) including Hopewell Township, Hopewell Borough and Pennington Borough. Each municipality has an emergency Management Coordinator. The OEM is responsible for planning for, responding to, and coordinating efforts during major emergency events in Hopewell Valley. The OEM has developed a comprehensive emergency operations plan. Periodically the OEM conducts drills involving the police departments, fire departments, emergency medical units, communications centers, health departments and other government agencies such as the public works departments. Emergencies to be prepared for include rainstorms and flooding, snowstorms and icestorms, strong winds, tornados, wildfires, extreme heat, extreme cold, train derailments, and pandemics.

The OEM uses an emergency operations center located in the Hopewell Township Police headquarters. This center is activated several times a year for incidents such as floods, major

snowstorms, and other large-scale events. The Hopewell Valley OEM works closely with the Mercer County and New Jersey Offices of Emergency Management.

3.2.3. Board of Health

(<https://www.penningtonboro.org/board-health>)

(<https://www.hopewelltp.org/190/Board-of-Health>)

The Board of Health provides health services to Borough residents **and businesses** through a shared services agreement with the Hopewell Township Health Department. The mission of the Township Board of Health is to protect, improve, and promote the health, productivity, and well-being of all Hopewell Valley residents. The Borough also has shared service agreements with the Township for animal control and senior services.

3.2.4. Recreation

The Pennington Parks & Recreation Commission sponsors recreational programs from youth to senior levels. Included are summer concerts, Art in The Park, Hopewell Valley Night Out and the 4th of July Races. Theme events include the Memorial Day Parade, the Easter Egg Hunt and the Holiday Walk.

The annual Pennington Day in May is organized by the non-profit organization Pennington Day Inc. Pennington Day's stated mission is; to further the Borough's spirit and identity as a community, and enhance its quality of life, while providing community groups, civic organizations and businesses of Hopewell Valley an opportunity to inform the community of their mission; to allow community organizations to raise funds through their sponsorship of Pennington Day events and/or the booths, and; to make grants to non-profits, civic organizations, schools and municipalities for specific projects that serve Pennington Borough and Hopewell Valley.

4. Other Facilities and Services

This section describes community facilities owned and operated by other entities within the Borough, and the services they provide.

4.1. Pennington Fire Company

Pennington Fire Company (PFC) operates from its own building on Broemel Place. Pennington Borough Fire District No. 1 is an autonomous entity responsible for providing fire protection and extinguishing fires within the geographic boundaries of Pennington Borough and, pursuant to an agreement with the Hopewell Township Board of Fire Commissioners, for providing primary fire protection and extinguishing fires to the central and southern portions of Hopewell Township. The Fire District is governed by a five-member Board of Fire Commissioners. It is funded through a fire tax - **in 2025 this was set at 5.0 cents per \$100 of property valuation for real estate tax purposes**. Its mission is to protect life, property and the environment from damage due to fire and environmental emergencies in the district, and to assist neighboring communities

in their mission to do the same. The Fire District's administrative office is in the PFC building on Broemel Place.

Pennington Fire Company is a 100% volunteer organization that has provided volunteer fire services and emergency services to Pennington Borough, Hopewell Borough, and Township, as well as the surrounding areas, since 1891. It is one of only four 100% volunteer fire companies left in Mercer County. (<https://penningtonfire.org>). Section 6.1 reports that in its Community Facilities Plan, Hopewell Township states that “The Fire District is developing a plan for the construction of a building in the Municipal Services Complex to house Fire District administrative offices, equipment storage, rescue vehicles and emergency response. As residential and non-residential development proceeds towards build-out, the Fire District may also need to re-evaluate its operations and the need for additional facilities.” With housing growth in both the Borough and the Township and a reduction in the number of volunteers, such a re-evaluation may be needed. This may result in the PFC Building on Broemel Place becoming redundant.

4.2. Pennington First Aid

The Pennington First Aid Squad (PFAS) stopped responding to emergency calls on February 28, 2022, after 68 years of continuous 911-response to the community. The squad has gone out of business due to steadily declining numbers of volunteer EMTs. Squad leadership pursued several avenues to help ease staffing difficulties, including ramping up recruitment and retention efforts, and trying to expand the use of paid EMTs to supplement the volunteers. These were not enough to overcome the challenges, and the squad was left with no other option than to disband. In its February 7, 2022, regular meeting, the Borough Council authorized the Mayor to enter into a Shared Services Agreement with Mercer County for the provision of EMS dispatch services (Resolution 2022-2.13). Ambulance services are currently being provided by Capital Health in Hopewell Township.

As discussed in Section 4.1, if the Fire District re-evaluates current needs for emergency response, an option may be to combine fire and rescue services in a modern building in the Township. That would make the current EMS building on Broemel Place redundant. If both the fire house and EMS building are no longer needed, the lots they occupy could be added to the area in need of redevelopment centered around the landfill (see Section 3.1.5), making it a more valuable proposition.

4.3. Pennington Public Library

(<https://www.penningtonlibrary.org>)

Pennington Public Library is an independent community institution that was founded in 1876. The library is a tenant of the Borough subject to a MOU. The mission of the library is to celebrate reading in all formats and provide a warm, welcoming place where community members of all ages can interact, engage in public discourse, and pursue lifelong learning for personal growth and entertainment. The library offers a variety of quality programming, knowledgeable staff, dedicated volunteers who staff the circulation desk, a comfortable physical environment and coffee and tea station courtesy of the Friends of the Library. The library’s

current collection of books, e-books, DVDs, newspapers and magazines exceeds 34,000 titles. The circulation is over 44,000 titles checked out annually. The library also provides access to the world through free Wi-Fi, offers frequent programs for education and entertainment, and builds a strong community by sharing information from local organizations.

To ensure fiscal parity among municipalities that support a local or joint library and those that support a county library, on March 21, 2011, Governor Chris Christie signed P.L. 2011, c. 38 into law. This law provides a dedicated line item on the property tax bill for the minimum funding to municipal and joint free public libraries. In 2025, the Pennington Municipal Library tax was 4.6 cents per \$100 of property valuation for real estate tax purposes. **The Borough collects these taxes and passes these funds through to the library.** The library budget is supplemented by donations from the community to the Friends of Pennington Library. Library cards can be obtained at no charge for people who live in the Hopewell Valley Regional School District. The library trustees have completed a strategic plan and a building program plan, which will be used to determine future library needs.

4.4. Post Office

The United States Post Office occupies a building on a 0.5-acre site on Broemel Place across from the Pennington Fire Company. Post Office employees provide window, P.O. Box and passport services. All mail carriers and vehicles for the delivery of mail in the Pennington 08534 Zip Code operate out of the building. **The 08534 Zip Code includes about 13,000 residents in 5000 homes on 22 acres that include Pennington Borough and an area of Hopewell Township surrounding Pennington. Of these, 2,800 residents and 1,100 homes are in Pennington Borough.**

4.5. Churches

There are five churches, and two active cemeteries located in Pennington. These are identified in Table 1 below. Partnership with these churches to have their buildings be shelters as part of the emergency management plan is recommended. If the churches were to offer public parking outside church hours, it could increase the number of parking spaces in the Borough and help town center businesses. They could also add fee-based electric charging infrastructure to their community services. These would help generate revenue.

Table 1. Churches and Active Cemeteries

Use/Facility	Location	Size (Acres+/-)
Pennington United Methodist Church	South Main Street	1.0
First Baptist Church of Pennington	Academy Street	0.3
St. Matthew's Episcopal Church	South Main Street	1.2
St. James Roman Catholic Church	Eglantine Avenue	5.0
Pennington Presbyterian Church and Cemetery	South Main Street	1.9
Pennington Cemetery Association	South Main Street	<u>4.8</u>
	Total Area	14.2

The Pennington Historic Preservation Commission recognizes the importance of preserving historic structures while repurposing them to meet evolving community needs. Many buildings, including churches, within the Historic District offer unique opportunities to serve as community facilities. The adaptive use and reuse of these structures can provide venues for cultural, educational, and recreational activities while maintaining their historical integrity.

Given the potential for church closures or consolidations due to declining attendance, the Commission advocates for proactive measures to repurpose them. These spaces could accommodate a range of services, such as daycare centers, meeting halls, or cultural hubs, ensuring their continued contribution to the community fabric. Integrating these facilities into the Borough's service offerings allows Pennington to honor its architectural heritage while meeting modern needs, fostering a sense of continuity and shared purpose.

4.6. Howe Commons

Named for a very influential member of the community who developed many of Pennington's neighborhoods and served twice as Mayor, the William P. Howe Commons at 65 South Main Street is made up of five buildings that fit with the Colonial feeling of the town. The oldest building, Abey House, started life as a farmhouse in the early 1800's and after a few ups and downs, was restored to its current state by Dr. William Abey as his residence in 1942. Building E, the last of the five, was completed in 2009. Building D is occupied by Howe Commons' principal owner, the Electrochemical Society. The grounds of the Commons add to the aesthetic appeal of the Borough streetscape. **With cooperation from the owner**, hosting various public events in the Borough has been a long-standing tradition of Howe Commons. These include concerts for the Parks & Recreation Committee, use by the Pennington Business & Professional Associations for The Holiday Walk and to host the Borough Christmas Tree and Menorah, and as a gathering place for dignitaries for the Memorial Day Parade.

4.7. Trenton Cyrus #5 Freemasons Lodge

The Freemason Trenton Cyrus #5 Lodge has a Temple at 131 Burd Street in Pennington. The Temple was dedicated and opened for business on September 23, 1961. It hosts several events that are open to the public, including Oktoberfest, a Santa Claus visit before Christmas, and various events to celebrate local citizens, who do not need to be freemasons.

4.8. Public Schools

(<https://www.hvrds.org>)

The Hopewell Valley Regional School District (HVRSD) has been in operation since 1965 when voters of Hopewell Township, Hopewell Borough and Pennington Borough approved a plan to consolidate their schools. A history of schools in Hopewell Valley can be found on the HVRSD website. HVRSD operates six schools, Central High School (grades 9-12), Timberlane Middle School (grades 6-8) and four elementary schools (pre-K to grade 5). Pennington resident children may attend Toll Gate Grammar School, Timberlane Middle School and Central High School.

Toll Gate Grammar school is located at 275 South Main Street in Pennington Borough and has a student population of around 300. It was built in the 1920's along with the original Central High School at 425 South Main Street, which now houses the HVRSD administration offices. These two buildings are well-preserved landmarks in the historic landscape of Pennington and if either were to be vacated by HVRSD, the Historic Preservation Commission would like to see adaptive reuse to preserve the historic architecture.

4.9. Private Schools

4.9.1. The Pennington School

The Pennington School was founded in 1838. It is a private, coeducational school with day and boarding programs for students in grades 6 through 12. Boarding is offered for grades 8-12. The Pennington School has an enrollment of about 535 students and about half of them live on campus. School grounds are located on both sides of West Delaware Avenue. Approximately 33 acres are located on the south side of West Delaware and 17 acres on the north side, including staff housing. As shown in Table 2, about 12 acres on either side of Green Street are open space.

4.9.2. Cambridge School

Cambridge School is an independent grade 1-12 day school that specializes in helping students with language-based learning differences. The school is located at 100 Straube Center Boulevard in Pennington Borough and serves around 130 students with a teacher-to-student ratio of about 4.

5. Open Space in Pennington for Recreation

As shown in Table 2, there are several other areas of open space available for residents to use in addition to the four Borough-owned parks described in section 3.1.4.

Table 2. Parks and Other Open Space in Pennington

Use/Facility	Location	Size (Acres+/-)
Parks and Recreation		
Kunkel Park	King George Rd.	7.5
Mini-park	Sked St.	1.1
Veterans Memorial Park, with gazebo	Broemel / Knowles	0.5
Eileen M. Heinzl Arboretum	East Curlis	2.7
		<hr/> 11.8
Educational Facilities		
Toll Gate rear field and playground	South Main	3.3
HVRSD Admin rear field	South Main	2.9
Pennington School sports fields and lake	Burd Street	15.9
Pennington School woods walk and field	Green Street, east side	5.7
Pennington School field and tennis courts	Green Street, west side	6.5
		<hr/> 34.3

Other spaces open to the public		
Pennington African Cemetery and south	South Main	1.3
Hopewell Valley Senior Center	Reading Street	<u>5.4</u>
		6.7
Total area		52.8

Pennington’s four parks cover 11.8 acres of Borough land. Educational facilities in the Borough contribute an additional 34.3 acres of land that is available for public use. These include Toll Gate School rear field and playground, the Board of Education's Administration Building rear field, the Pennington School sports fields and lake on Burd Street and its fields and woodlands on both sides of Green Street. In addition, the Pennington African Cemetery contributes 1.3 acres and there are 5.4 acres of open space north of the Senior Center on Reading Street. The total area of open space available to the public in Pennigton is approximately 53 acres.

The National Recreation Association has determined that approximately 10 acres of parkland is needed for every 1000 people in a community. According to this recommended ratio, Pennington Borough, with a population of about 2,800, should have 28 acres of recreational open space. Pennington is adequately served by the 53 acres of combined open space shown in Table 2. In addition, the Borough is surrounded by large tracts of open space including Baldwin Lake Wildlife Management Area, the Watersheds Institute, and the Mercer County Park – Rosedale, Mercer Meadows and Curlis Woods. Many of these areas are connected via trails such as the Lawrence Hopewell Trail, which also connects to additional open spaces throughout the County.

6. Relationship with Regional Community Facilities Plans

6.1. Hopewell Township Master Plan

<https://www.hopewelltp.org/DocumentCenter/View/8614/Community-Facilities-Plan-Element--Adopted-April-12-2007>

Hopewell Township adopted a Community Facilities Plan element in 2007. It covered

1. Hopewell Township Municipal Complex
2. Fire Protection and Emergency Services
3. Police Protection
4. Hopewell Valley Regional School District
5. Library
6. Senior Citizens
7. Youth Activities

Facilities and services recommendations were made in five areas in the 2007 element:

1. Municipal Operations

The addition of more bays at the public works building was recommended, because the bays are undersized for some of the existing equipment and some equipment is

stored outside. Given the size of the tract and its location, the public works site also presents further opportunities for expansion.

2. Township Fire District

The Fire District is developing a plan for the construction of a building in the Municipal Services Complex to house Fire District administrative offices, equipment storage, rescue vehicles and emergency response. As residential and non-residential development proceeds towards build-out, the Fire District may also need to re-evaluate its operations and the need for additional facilities.

3. School District

After a population growth analysis, it appeared that future school enrollments, combined with programmatic requirements established by the N. J. Department of Education (DOE), will create a need for a new school site or substantial reconfiguration of existing school sites. In the HVRSD planning process an early childhood center also is being considered.

4. Hopewell Valley Senior Advisory Board

A proposal by the Hopewell Valley Senior Center Planning Committee (later constituted as the Senior Advisory Board) recommended the construction of a Hopewell Valley Senior Center with a full-time director.

5. Youth Activities and Youth Advisory Committee

It was recommended that the Youth Advisory Committee meet with interested parents, community leaders, government officials, health professionals and youth to determine the feasibility of a teen/youth center in Hopewell Valley.

No significant changes were recommended for the 2007 Community Facility Plan element in the 2021 Master Plan Reexamination report.

6.2. Mercer County Master Plan

<https://www.mercercounty.org/home/showpublisheddocument/1242/636058423221200000>

The Mercer County Master Plan framework document of 2010, and amended in 2016, discusses County assets, strengths and challenges in Section III. Regional Vision: Goals, Policies, and Strategies (page 25). The assets are discussed at a very high level, rather than at the facilities or services level.

A 2024-25 \$450k grant program called Mercer County at Play for All enables non-profits and municipalities to provide programming and facility improvements that benefit vulnerable populations. Funding is available in three eligibility categories:

1. Equipment purchases and programming for municipal senior physical recreation programs.
2. Inclusive playground improvement grants to municipalities
3. Programming support grants for non-profits that provide after school mentoring and sports programming to underserved youth

This and similar future programs could be tapped for resources to improve certain Borough recreational facilities and services.

<https://www.mercercounty.org/departments/planning/mercer-at-play-3-test>

7. Relationship with Other Plan Elements in the Master Plan

The Community Facilities and Services Plan Element impacts and is impacted by other Master Plan elements as follows:

Land Use Plan Element. The capacity to support community facilities and services is impacted by the development and redevelopment that the Borough permits through zoning. Consequently, the potential to redevelop and/or re-imagine facilities within the Borough to support the community's needs and the goals and objectives set forth in this and other elements should be reflected in the Borough's Land Use Plan Element and the zoning that implements it.

Housing Plan Element. The Borough has identified areas in need of redevelopment which may hold the opportunity for high density housing, including affordable units. The impact of these developments on the need for additional community facilities should be considered. As the Borough investigates the redevelopment opportunities, possible new community facilities should be considered.

Mobility Plan Element. The Mobility Plan includes goals to provide safe access to the town center and to recreational facilities for pedestrians, bicyclists and those not in cars. This will enhance the opportunities for residents to access community facilities.

Utility Services Plan Element. The Utility Services Plan gives details of the services provided to residents by the Borough from the facilities described in this Community Facilities and Services Plan.

Economic Development Plan Element. This Plan considers all aspects of commerce and economic development in the Borough. Some of the commercial facilities in the Borough may be willing to offer space for community activities and furthermore, local businesses rely upon, and benefit from, services offered within the Borough, as well as facilities that draw visitors to the center of town.

Open Space and Recreation Plan Element. Open space and recreation were combined with community facilities in the 1998 Master Plan. Since they are now separate plans, it will be necessary in the future to review both plans to ensure their goals remain consistent.

Historic Preservation

Historic preservation aims to maintain the Borough's historic character. Some of the preserved buildings may be of interest for a variety of community activities, both historical and recreational.

Notes on this Revised Draft of the Open Space and Recreation Plan Element

This revised draft of the Open Space and Recreation Plan element will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the Open Space and Recreation Plan element, no goal conflicts with other Plan elements were found so no structural changes were needed.

Comments were received and minor changes to wording were incorporated. These are highlighted in yellow.

Since the Open Space and Recreation Plan element was created early in the process, sections on relationships to other plans were not included in the initial draft. Two new sections have been added, 7. Relationship with other Regional Plans and 8. Relationship with Other Plan Elements in the Master Plan.

[These notes are for information only and will not appear in the final version of the element.]

MASTER PLAN
BOROUGH OF PENNINGTON
NEW JERSEY

7. Open Space and Recreation Plan Element (Revised)

The final draft of the Open Space and Recreation Plan from the Open Space Committee and Parks & Recreation Commission writing team was conditionally adopted by the Planning Board on June 12, 2024, and posted on the Borough website for public comment.

This revised version includes updates based on public comments and changes based on comparison of all elements to ensure consistency. These are highlighted in yellow. It will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

Contents

1. Mission and Vision
2. Goals and Policies
3. Existing Open Space and Recreational Resources
4. Recreational Needs Analysis
5. Open Space Resource Assessment
6. Action Plan
7. Relationship with other Regional Plans
8. Relationship with Other Plan Elements in the Master Plan
9. Appendix - Maps

Open Space Committee:

Alan Hershey (Chair), John Jackson, Dan Pace, Jason Meyer, Nancy Fishman, Art Firestone, Mark Blackwell and Kit Chandler

Parks & Recreation Commission:

Brett Margulis (Chair), Heather Driscoll, Jonathan Bowden, Edward Krups, Frank Vanderee, Ruth Sullivan, John Gasparine, Krystyn Friedlich and Charles Marciante

Acknowledgements:

Many thanks to members of the Open Space Committee for their participation in drafting and reviewing this plan as it was refined. Thanks also to the Parks and Recreation Committee for their input. Special thanks also to Kate O’Neill and Kati Angerone for their careful review and editing.

1. Mission And Vision

This element of the Master Plan results from the consultation and collaboration of two advisory committees, on Open Space and on Parks and Recreation. Their respective missions or vision statements are presented below. Some aspects of these committees' visions intersect with the work and aims of other Borough advisory committees, and where relevant such intersections are noted in the text.

Open Space Preservation Mission:

To retain the “village” identity of Pennington and the semi-rural character of nearby surrounding areas, the Borough of Pennington works in collaboration with Hopewell Township, non-profit land preservation organizations, Mercer County, and the State of New Jersey to permanently protect open space in, adjacent to, and near the Borough as well as open space along roads, **waterways** and other undeveloped greenway corridors leading to and from the Borough.

Parks and Recreation Vision Statement:

Pennington Borough is a close-knit village surrounded by open space and accessible by numerous greenway corridors and trail systems. The Pennington Parks & Recreation Commission exists to provide recreational space, facilities, and programming for all Borough residents. Our vision is to maximize participation in outdoor and indoor recreation, and to collaborate with other Borough committees to maximize synergies between recreation, education, and economic development efforts inside and outside the Borough.

2. Goals and Policies

The Open Space and Recreation Plan (OSRP) is consistent with the goals and objectives of the Borough's 2023 Master Plan Reexamination Report related to open space preservation. The Master Plan establishes as one of its goals the maintenance of Pennington as a primarily residential community, and elaborates that open space and recreational areas, both public and private, should be preserved and enhanced, with linkages to nearby preserved areas. Undeveloped lands forming natural breaks in development around the Borough are a major factor in Pennington's distinctive historic village character. The Master Plan statement of goals emphasizes that the Borough should work with “public and private agencies” such as non-profit organizations to preserve these open space areas. Such partnerships also dramatically increase the effectiveness of the Borough's Open Space Tax, since partner contributions can often cover 90% or even more of acquisition costs.

The OSRP elaborates on these Master Plan goals as a vehicle for soliciting public input on how those goals should be realized. By voting to adopt an open space tax in 1998 by a margin of more than 3-1, Borough **taxpayers** supported the idea that open space preservation and the recreation it offers are important. In 1999, following that vote, the Borough Council created by ordinance the Open Space Committee and an Open Space Trust Fund. In 2000, the Council

approved Pennington’s participation in the three-municipality Hopewell Valley Open Space Advisory Committee. Citizen input on the OSRP will help guide how those and other resources can be best used to preserve open space and enhance recreational opportunities.

Open Space Preservation:

The goals of the Borough’s OSRP are to advance the broader Master Plan by acting in concert with Hopewell Township, Mercer County, the State of New Jersey, and local non-profit land preservation organizations to:

1. Create, expand, and maintain a permanently protected greenbelt of open space adjacent to and near the Borough, and foster and protect greenway corridors leading into and out of the Borough.
2. Preserve the historic village character of Pennington, which depends on the maintenance of a rural landscape on the Borough’s boundaries and on the fringes of developed land surrounding the Borough, and along corridors leading to and from the Borough.
3. Increase the range of passive recreational opportunities on permanently protected tracts of open space in and near the Borough.
4. Address environmental issues that affect the health, welfare, and safety of Borough residents and neighboring populations through actions related to open space preservation and protection. These may include issues such as storm water management, water quality and quantity, climate change, and threats to natural landscapes from wildfires, pests, disease, and non-native invasive species.

Open Space and Recreational Enhancements:

The specific objectives of the Borough’s OSRP related to open space and recreational activity are:

1. Create and enhance linkages that allow pedestrian access to open space and recreational opportunities from multiple points within the Borough. Work toward the goal of making open space and recreation facilities reasonably accessible to all, regardless of age or disability.
2. Create and enhance linkages that allow bicycle access to open space and bicycle routes outside the Borough. Provide bicycle racks at Borough parks and in commercial areas.
3. Enhance recreational facilities in Kunkel and Sked Street parks, with attention to the needs of both children and adults of all abilities.

4. Where the Borough owns land that is in a natural state, formalize its preservation by rezoning as Open Space. For example: complete work on the Borough-owned Arboretum land on East Curlis Ave.

3. Existing Open Space and Recreational Resources

Properties on the Borough's Recreation and Open Space Inventory (ROSI)

Within the Borough of Pennington there are four parcels of permanently protected open space listed on the Recreation and Open Space inventory, totaling 13.12 acres:

- Kunkel Park (7.59 acres) lies in the northeast corner of the Borough and offers playground equipment, a sand box and a pavilion for picnics and other functions, as well as a link to open space outside the Borough via the Pennington Loop Trail. The park also features a fine stand of mature hardwoods.
- The Sked Street mini park (1.06 acres) offers a quiet spot for families and small children to play safely outdoors.
- The Arboretum being developed by the Borough, as referred to above (3.4 acres)
- Two lots adjacent to the Pennington African Cemetery, totaling 1.07 acres

These properties are valuable spots of green and quiet in the Borough, but they offer limited open space. They cannot provide the extensive open space needed for long country walks, nor can they provide a wide range of recreational facilities.

By virtue of the Borough's location near existing open space lands, however, there are opportunities to expand the open space and recreation opportunities available from within the Borough. Going north, for example, Kunkel Park can be linked along the Stony Brook to the protected lands of The Watershed Institute (formerly Stony Brook-Millstone Watershed Association), and thus connected by already existing footpaths to Hopewell Borough. The Pennington Loop Trail already provides access from Kunkel Park to the State's Fish and Wildlife Preserve at Baldwin Lake, which is linked to the trail easements and County-owned land along the Stony Brook referred to above.

Similar linkages are possible to the south and east as well. Preserved lands just outside the southern border of the Borough now allow access from South Main Street to Mercer County Park lands, with footpath access to Curlis Lake, the Equestrian Center, and Rosedale Park sections of Mercer Meadows. The Pennington Connector to the Lawrence-Hopewell Trail (LHT) provides a pedestrian/bicycle connection from King George Road to the Watershed Institute Reserve and to Mercer Meadows.

School Properties

Local school properties include open space and recreational facilities. To the rear of Toll Gate Grammar School, the cleared area of 2.6 acres includes a playground, baseball/soccer fields, bordering on wooded Borough property being improved as an arboretum. Over half of the

27 acres of The Pennington School property south of W. Delaware Avenue is open space, including athletic fields and a pond, as well as a large lawn area in front of Old Main on West Delaware Avenue, which features some of the Borough's largest trees. On the north side of West Delaware Avenue is another 5 acres of Pennington School land where tennis courts and soccer fields are located. Pennington School permits the public to make use of its campus and athletic fields, with some occasional restrictions.

On South Main Street, to the rear of the Hopewell Valley Regional School District administrative offices, there are approximately 2 acres of mowed grass, which in the past were used by the YMCA, with permits, for baseball and soccer games. Future action could be taken to protect a portion of this property for public use.

Wooded Areas

There are three existing woodland sites within the Borough and two Borough-owned sites just outside the Borough:

1. 3.48 acres at the rear of the Toll Gate School site on East Curlis Avenue, owned by the Borough. A portion of this tract is currently being developed as an arboretum, as described above. The area includes a small stream and a trail from Curlis Avenue to Welling Avenue used mostly by school children. A portion of the trail is on a Borough right-of-way extending from Baldwin Street.
2. 3.2 acres with trails on the east side of Green Street, connecting to North Main Street, owned by The Pennington School and designated as the Lewis Brook Nature Trail. This site borders the south side of Lewis Brook. Additional markings could help walkers identify the access point for this trail on North Main Street.
3. Approximately 0.75 acres at the northern end of Reading Street, owned by the Borough. This area is the northern part of the Senior Citizen Center site and is bounded on the west by the railroad tracks, on the east by the backyards of homes on Hale Street, and on the north by property of the Pennington School.
4. Just north of the Borough in Hopewell Township, there is an approximately 14-acre wooded area to the rear (north) of the Borough's Public Works garage. Crossing the site from Route 31 to the railroad tracks is Baldwin Brook, which feeds Baldwin Lake. The stream is **considered to have** a high natural resource value by the NJ Department of Environmental Protection (C-1) which requires a 300-foot-wide buffer on either side.
5. Also in Hopewell Township, the Borough owns a 4-acre former dam site on Stony Brook just west of Old Mill Road. The WPA-built dam from the 1930s has been mostly destroyed by flood waters through the years, going back to the 1973 flood. The breach in the approximately 5-foot-high deteriorated stone dam is more than 100 feet wide.

Landfill Site

The Borough is currently conducting reviews of environmental remediation needed for its approximately 3-acre abandoned, grass-covered landfill along West Delaware Avenue. After the reviews are complete, zoning and suitable potential uses, which could include open space, will be decided.

Howe Commons

The privately owned courtyard area in the center of the Howe Commons office complex on South Main Street is a highly valued oasis of open space in the Borough. In addition to its aesthetic quality, this open space is used for special public events. Under a license agreement signed by the owner and the Borough in January 2005, the courtyard area can be used without charge for “community events” such as “Pennington Day, **holiday events** and summer band concerts,” and has been so used for at least 25 years.

Trails and Bike Routes

The Borough is fortunate to have direct pedestrian access to hiking trails from its borders to two large open space preserves: the County’s Curlis Lake Woods section of Mercer Meadows, and land north of the Borough extending to Baldwin Lake via the Pennington Loop Trail. This land includes property owned and maintained by the NJ Department of Environmental Protection - Fish and Wildlife, and D&R Greenway Land Trust.

The Borough also enjoys direct access to the multi-use Lawrence Hopewell Trail (LHT) via the Pennington Connector, completed in 2014. The LHT is a 22-mile loop trail suitable for biking which extends through sections of Hopewell Township and Lawrence Township. Of particular benefit to Pennington is the trail’s connection to the County’s Rosedale Park and other sections of Mercer Meadows. See Appendix B for a map showing entrance points to the LHT and hiking trails.

Just south of the Borough, Pennington-Lawrenceville Road (County Route 546) has been widened by Mercer County to provide bike lanes. This improves safety for bicyclists riding from Pennington to the Twin Pines recreational fields and residential areas along County Route 546, including Brandon Farms. Bicyclists can extend their ride from the Twin Pines fields to Mercer Meadows on the east side of Federal City Road and further east to Village Park and the Johnson Trolley Line in Lawrenceville.

This improvement of Route 546 is part of the implementation of Mercer County’s plans for the “Great Western Bikeway.” The Great Western Bikeway, mostly on CR 546, will extend from Washington Crossing State Park to Lawrenceville and the D&R Canal. The route includes Washington Crossing-Pennington Road to the west of Pennington and Pennington-Lawrenceville Road to the east of Pennington, with Pennington being at the mid-point of the 8-mile bikeway (see map in Appendix C). The plan calls for the bike route to detour around the Pennington Circle via Ingleside Avenue and South Main Street with a pedestrian activated light at the Route 31-Ingleside Avenue intersection. At its western end, this bike route will provide access to roads

within Washington Crossing State Park and to the Delaware & Raritan Canal State Park towpath, a 30-mile bikeway extending along the feeder canal from Trenton to Frenchtown. At the eastern end, the route will connect to the main leg of the D&R Canal and its towpath, and the Lawrence Hopewell Trail in Lawrence Township.

4. Recreational Needs Analysis

The Borough's existing open space within its boundaries clearly cannot alone provide for expansion of open space recreation. The only feasible strategy is for the Borough to work with other agencies and non-profit groups to expand permanently protected and preserved open space outside the Borough for recreational use. Within the Borough, however, there are ways to enhance some recreational opportunities.

5. Open Space Resource Assessment

A broad band of undeveloped land, some already preserved and much of it not preserved, extends around Pennington Borough and offers substantial opportunities for progress towards the OSRP goals. Specific parcels of land will be identified as potential preservation opportunities through communication with interested landowners.

Analysis of tax maps suggests possible preservation opportunities that would expand preserved open space to the east and west. To the east, there is substantial vacant land opposite Mercer Meadows along Federal City Road. To the west, open space corridors are being created by Hopewell Township and other entities toward the Delaware River along Pennington-Titusville Road and Washington Crossing-Pennington Road. Expansion of open space preservation in each of these areas would advance the OSRP goals.

Criteria for preserving land outside the Borough should be based on several factors including (in no order of priority):

1. Proximity to the Borough
2. Whether adjacent to preserved land
3. Natural resource value, including woodlands and stream corridors
4. Potential for environmental restoration and protection, including flood mitigation.
5. Potential for passive recreational use
6. Potential for active recreational use
7. Viewshed from adjacent roads
8. Potential for linkages to other preserved land
9. Risk of potential development

The Borough's Open Space Tax (one cent on every \$100 of assessed valuation) is an important source of revenue for open space acquisition in and around the Borough, and for enhancing recreational facilities within the Borough. The tax revenue allows the Borough to tap into other revenue sources that can dramatically increase the purchasing power of modest

expenditures from its own funds. For open space acquisition, the Borough has taken advantage of NJ Green Acres grants and Mercer County Municipal Assistance grants; when both are obtained for a project, they cover all but a 10% required local match for an open space purchase. This practice has allowed the Borough to build up its open space fund. The Borough should consider this fund as a strategic asset that can be used to leverage State and County funds and funds available from non-profit partners. **The Borough should actively pursue grant opportunities for restoration and enhancement of acquired land.**

6. Action Plan

Open Space Acquisition

The Borough's strategy is and should continue to be to work in concert with Hopewell Valley partners. These partners are already actively identifying emerging land preservation opportunities. The Borough can work with interested landowners to negotiate terms and financial arrangements that can satisfy the public's interest in land preservation and landowners' legitimate interest in realizing a fair return for their land. The Borough should cooperate with Hopewell Township, the Friends of Hopewell Valley Open space, D&R Greenway Land Trust, Mercer County, the New Jersey Conservation Foundation, and the State of New Jersey. The Borough should remain open to participating in transactions that might entail purchase of land in fee simple from owners, as well as transactions in which land is preserved through the conveyance of conservation easements. With such cooperation, the Borough can expect that land preservation transactions will typically involve a combination of resources contributed by the Borough and these partners.

Rather than identify specific parcels that would be targets of preservation, the Borough prefers to follow up on opportunities that are consistent with the overall goals of the OSRP. Identifying specific parcels would be unrealistic, since the voluntary interest of landowners in the area must first be engaged. Moreover, identifying specific parcels in the absence of landowner's expressions of interest could be perceived as coercive or alternatively might weaken the bargaining position of the partners who are negotiating preservation deals.

The plan of action for open space acquisition will be guided by the accompanying Open Space Map (Appendix A) showing the proposed Greenbelt and nearby greenway corridor roads. Other "gateway" corridors that **are off road and** offer potential non-auto access to the Borough can be identified based on emerging land preservation opportunities. This map provides a broad guideline for determining whether land preservation opportunities will contribute to the overall OSRP goals. The Borough will also consider the Hopewell Township Open Space Plan, which defines a Greenbelt around the Borough. The watershed improvement initiative led by the Watershed Institute for Princeton, Lawrence Township, Hopewell Township and Pennington may identify other opportunities for open space acquisition for flood mitigation.

The proposed Greenbelt as shown on the Open Space Map is important to preserving the identity of Pennington as a separate and distinct small town. The Greenbelt includes a substantial amount of undeveloped land, especially to the west and east of the Borough. The

eastern boundary extends to Mercer Meadows along Federal City Road, while the western boundary extends to Scotch Road. The northern boundary extends to Yard Road, and the southern boundary extends to Pennington Circle and Blackwell Road. It should be noted, however, that further residential development around Pennington could make it appropriate to reconsider and expand this Greenbelt definition to maintain a focus on preserving green areas that surround Pennington and its adjacent developed areas in what might be called “greater Pennington.”

The other major element in preserving open space as shown on the Open Space Map consists of nearby “greenway corridors” emanating from the Borough or the nearby Pennington Circle. In earlier OSRPs, these corridors were defined solely along roads that link Pennington to state, county, and municipal parks; preserving the scenic quality of these roads can thus contribute to the goal of maintaining Pennington’s character. Each of these roads is bordered by a substantial amount of open space, much already preserved.

The identified “greenway corridor roads” are as follows: 1) to the west of Pennington, Washington Crossing-Pennington Road and Pennington-Titusville Road, both of which extend to Hopewell Township’s Woolsey Park and Washington Crossing State Park; 2) to the east, Federal City Road, which leads to Rosedale Park and the County’s Mercer Meadows; 3) to the northeast, Pennington-Rocky Hill Road, which includes the former Bristol-Myers Squibb site with its 200 acres of farmland. Priority for preservation should be given to sites on these roads within two miles of the Borough.

There is an increasing appetite among the public for ways to move around our area without getting in a car. For that reason, the OSRP envisions the creation, where possible, of off-road corridors in and out of the Borough. Such corridors may provide Borough residents with access to recreational opportunities outside the Borough, and for non-Borough residents to come into the Borough to visit local businesses or friends. Such corridors could include footpaths or even bicycle paths where feasible.

Preservation of Wooded Areas in Pennington and of Other Sites Owned by the Borough

The Borough has designated the land behind Toll Gate Elementary School as the Eileen M. Heinzl Arboretum and has included it in its ROSI. The Borough should continue to work with **the Environmental Commission, the Shade Tree Committee**, local volunteers and the Public Works Department to transform selected areas of that wooded parcel into an arboretum - a protected area for installation of native trees, shrubs, and perennials, with access trails, that can serve the enjoyment and education of **students**, residents and visitors.

The Borough Public Works garage is on a site in Hopewell Township just north of the Borough Boundary, which is partly wooded. The entire wooded area to the rear (north) of the garage should be retained and kept natural by the Borough. The area immediately behind the facility is already devoted to a solar array. Given stream buffer requirements, difficulty of access from Route 31, and Township zoning (industrial commercial), it is unlikely that the wooded area north of Baldwin Creek is threatened by development interests. Since that area is also isolated from residential areas in the Borough, it is not an attractive site for development of recreational

trails. Nevertheless, the Borough could consider deed-restricting the remainder of that site (Township Block 48, Lot 13).to ensure that it remains undeveloped.

No action is needed to preserve the Borough’s dam site as open space due to wetland and stream corridor restrictions imposed by NJ DEP. Future recreational use of the site is doubtful given extensive wetlands on the site, limited access from Old Mill Road, and the unlikely reconstruction of the dam given DEP permitting issues and cost. Subdivision and sale of the site to adjacent homeowners on either side of Stony Brook should be considered.

Recreational Enhancements

Biking:

The safety of bicyclists within the Borough could be served by the installation of bike route signs on those streets best suited for bicycles and which provide connections to bike routes outside the Borough – see Proposed Bike Route map in Appendix D. These routes run both east-west and north-south. The east-west route shown takes advantage of bike lanes on lower King George Road, which lead to the Pennington Connector to the Lawrence-Hopewell Trail. Whenever the Borough is resurfacing roadways that align with the Proposed Bike Route map or that intersect with the Great Western Bikeway, appropriate signage **to the center of town and road** marking should be created.

Property owners in the Route 31 commercial corridor whose properties can be safely reached by bicycle from the Borough should be encouraged to provide bike racks on their sites.

A major improvement in access to safe bicycle routes outside the Borough could be achieved with a “Stony Brook-Presidential Hill Connector.” This connector would link the Pennington Connector to the LHT with the Pennington neighborhoods south of East Delaware Avenue. It would consist of:

- A crosswalk across East Delaware Avenue at its intersection with King George Road
- A new bicycle-capable trail along the south side of East Delaware Avenue from Stony Brook to the intersection of East Delaware Avenue and Federal City Road. This can be an off-road trail because the land is owned by the County.
- A crosswalk across Federal City Road from that intersection to the fire road access to Presidential Hill.
- Surfacing the fire road up to Madison Avenue, from which cyclists and pedestrians can safely use neighborhood streets to the southeast quadrant of Pennington.

Many students attending the Toll Gate school ride bicycles to school on the 4-foot- wide sidewalk along the south side of E. Curlis Avenue leading to bicycle racks near the playground. The sidewalk is also used by students walking to and from school and by students being dropped off or picked up by their parents momentarily parking along E. Curlis Avenue. Since the sidewalk is adjacent to the curb, open car doors extend over the sidewalk. The 4-foot width is inadequate for both bicycle and pedestrian use and hazardous due to its proximity to parked cars. To address this hazard and make bicycling to the school safer, a separate bike path consistent

with the Borough’s “complete streets” policy should be constructed running east from the school driveway potentially as far as the intersection with Abey Drive or perhaps part (e.g., 300 feet) of that distance. Alternatively, the sidewalk could be widened.

Bike-friendly linkages can also be extended to the south, taking advantage of the Great Western Bikeway (GWB) route. Bike lanes along South Main Street could connect to the GWB for rides towards Lawrenceville. If bike lanes or markings were added to Wellington Drive, Borough residents could ride safely to shopping and dining opportunities on Denow Road without a Route 31 riding experience.

Pedestrian Trails:

The Pennington Loop Trail should be extended north of Baldwin Lake along the west side of the Stony Brook to Titus Mill Road and then to the The Watershed Institute Reserve on the east side of the Stony Brook. Trail easements and land acquisition by Mercer County make this theoretically possible, but details of those deeds have become obstacles to achieving agreement with the owners or neighbors. Further discussions could be pursued again to determine whether agreement on such trails is now feasible.

Park Enhancement:

Important improvements have been made to the Borough’s Kunkel Park and Sked Street Park. The emphasis has been on children’s playground equipment. Opportunities might be found in those parks, or at other locations in the Borough, for simple facilities to enhance exercise values for runners and walkers.

Potential Synergies with Economic Development:

Although the emphasis in this OSRP is on outdoor recreation, some initiatives focused primarily on economic development could serve recreation goals as well. For example, promoting the creation of youth-friendly establishments might create indoor recreation and entertainment. The availability of outdoor-oriented shops can help residents find convenient ways to equip themselves for recreational jaunts on foot or on bikes.

7. Relationship with other Regional Plans

Hopewell Township Master Plan

The Township adopted an Open Space and Recreation Plan on June 18, 2018, to allow it to continue to participate in the Green Acres program and use the Planning Incentive Grants for the preservation of open space and recreational lands. This plan was targeted at technical and site-specific updates rather than a comprehensive update. A more comprehensive Open Space and Recreation Plan was adopted by the Township Planning Board on February 24, 2022. It included a review of and revisions to the goals and objectives of the original 2004 plan, updates to the

open space and recreation inventory, amendments to the action plan based on a needs analysis and updates to the Open Space and Recreation System Map.

Pennington Borough works with partners on open space selection, acquisition and development. In addition to Hopewell Township, the partners are the Friends of Hopewell Valley Open space, D&R Greenway Land Trust, Mercer County, the New Jersey Conservation Foundation, and the State of New Jersey. These partners are actively identifying emerging land preservation opportunities. Most of the parcels close enough to be of interest to the Borough are in Hopewell Township, so it is important that the Borough and Township work together on acquisition and preservation.

Mercer County Master Plan

Mercer County has been aggressively acquiring open space since the County open space preservation trust fund tax ballot question was overwhelmingly approved by the voters in 1989. It has been continually supported since. Pennington is a beneficiary of the extensive efforts by the County to preserve open space and develop it for active or passive recreation or as wildlife preserves. Within easy reach of Pennington are Mercer Meadows (consists of Rosedale Park, the Mercer County Equestrian Center, the Pole Farm, and Curlis Woods), the Ted Stiles Reserve at Baldpate Mountain, Howell Living History Farm, and the Hopewell Valley and Mountain View County Golf Courses. The County is also a principal supporter of the Lawrence-Hopewell Trail (LHT). The Mercer County Open Space Plan gives the history of its preservation efforts with its partners, resulting in 27% of County Land being preserved, up from 9% in 1990. The map on page 5 of the Plan shows Pennington and its surroundings as a County “action area” for acquisitions. The Borough Master Plan discusses its purchasing partners, including the County.

New Jersey State Development and Redevelopment Plan

The State Development and Redevelopment Plan (SDRP), also known as the State Plan, provides a vision for the future that will preserve and enhance the quality of life for all residents of New Jersey. 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 current SDRP was adopted in 2001 and is in the process of being updated by the Office of Planning Advocacy (OPA) and the State Planning Commission (SPC). The SPC approved the Preliminary SDRP update on December 4, 2024. It can be found at [https://nj.gov/state/bac/planning/documents/update-to-state-plan/Draft%20Preliminary%20SDRP%20\(SPC%20Approved%2012.4.2024\).pdf](https://nj.gov/state/bac/planning/documents/update-to-state-plan/Draft%20Preliminary%20SDRP%20(SPC%20Approved%2012.4.2024).pdf)

Goal 8 of the ten Goals of the updated SDRP relates to open space:

8. Protect, enhance, and improve access to areas with exceptional archeological, historic, cultural, scenic, open space, and recreational value.

Pages 69-71 of the Preliminary SDRP give Policy Objectives in the following areas relevant to open space and recreation:

Agriculture and Farmland Preservation:

“Encourage farmland retention and minimize conflicts with development. Prioritize farmland preservation funding in rural areas and enhancing large contiguous farmland areas. Promote diversified farming operations and adjust zoning to align with environmental sensitivity and climate change considerations. Promote agritourism that includes wineries, breweries, distilleries, cideries, and facilities that provide auxiliary activities.”

Recreation:

“Promote maximum active and passive recreational and tourism opportunities at the neighborhood, local, and regional levels by targeting the rehabilitation and development of parks within half a mile of residential neighborhoods with an appropriate density. Target parkland acquisitions and improvements, especially those that enhance large contiguous open space systems and link to other networks through redevelopment, reclamation, or restoration projects. Create public access and recreation opportunities and linkages along ocean front areas, bayfronts, and riverfronts. Convert obsolete railroad right-of-ways and canal pathways to multi-purpose trails equipped with amenities such as convenience stations including restrooms, bicycle rentals, and interpretive signage.”

8. Relationship with Other Plan Elements in the Master Plan

The Open Space and Recreation Plan Element impacts and is impacted by other Master Plan elements as follows:

Land Use Plan Element. The capacity to support open space and parks within the Borough is impacted by the development and redevelopment that the Borough permits through zoning. Where the Borough owns land that is in a natural state, its preservation should be formalized by rezoning as Open Space.

Housing Plan Element. The Borough has identified areas in need of redevelopment which may hold the opportunity for high density housing, including affordable units. The impact of these developments on the opportunities for open space acquisition should be considered.

Mobility Plan Element. The Mobility Plan includes goals to provide safe access to open spaces and to recreational facilities for pedestrians, bicyclists and those not in cars. This will enhance the opportunities for residents to access these facilities.

Community Facilities and Services Plan Element. This element documents parks and open space within the Borough and will need to be updated if additional acquisitions are made.

Conservation of Natural Resources Plan Element. This element along with the Environmental Resource Inventory (ERI) documents conserved resources and includes plans for additional conservation. It is closely aligned with the Open Space and Recreation Plan.

Economic Development Plan Element. This Plan considers all aspects of commerce and economic development in the Borough. The businesses in town frequently participate in the recreational activities organized by the Parks and Recreation Committee. The recreation plans should ensure that the joint efforts are supported appropriately. Open space developments and links to the town center are important to local businesses as residents and visitors can increase their customer base.

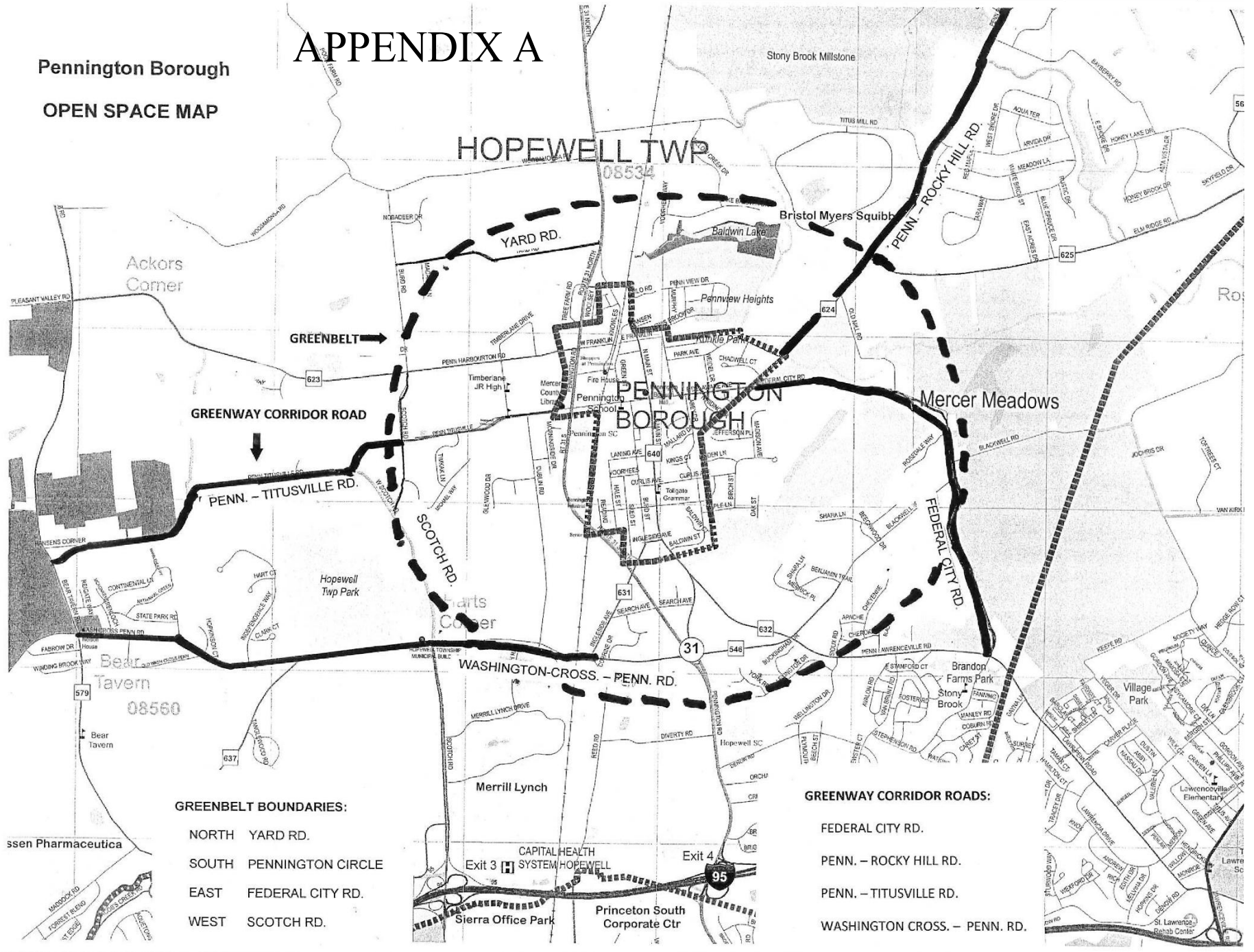
Historic Preservation Plan Element

Historic preservation aims to maintain the Borough's historic character and its goals are closely aligned with open space preservation.

Revised

Pennington Borough
OPEN SPACE MAP

APPENDIX A



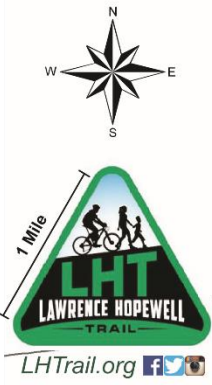
GREENBELT BOUNDARIES:

- NORTH YARD RD.
- SOUTH PENNINGTON CIRCLE
- EAST FEDERAL CITY RD.
- WEST SCOTCH RD.

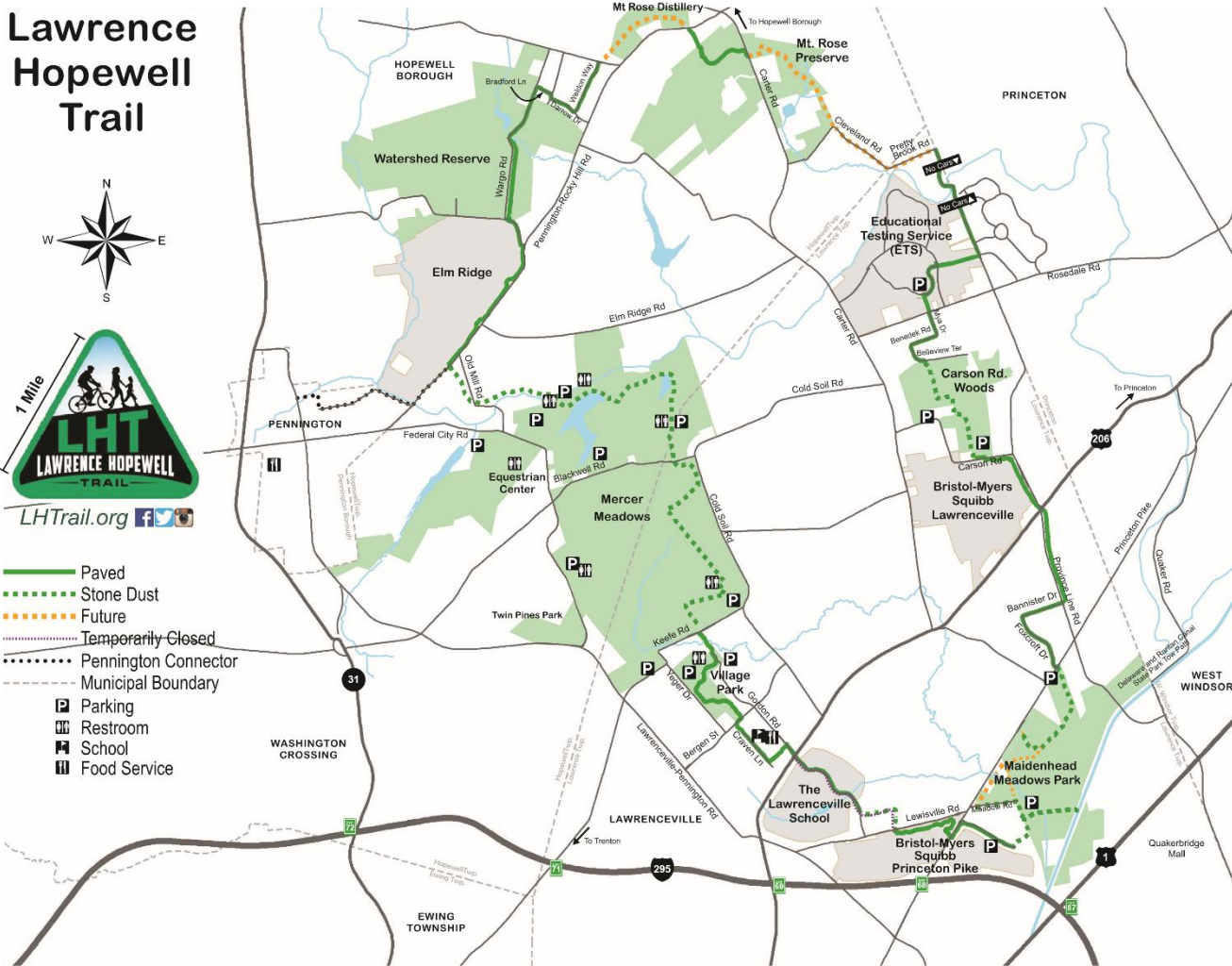
GREENWAY CORRIDOR ROADS:

- FEDERAL CITY RD.
- PENN. - ROCKY HILL RD.
- PENN. - TITUSVILLE RD.
- WASHINGTON CROSS. - PENN. RD.

Lawrence Hopewell Trail



- Paved
- - - Stone Dust
- - - Future
- - - Temporarily Closed
- - - Pennington Connector
- Municipal Boundary
- P Parking
- R Restroom
- S School
- F Food Service



APPENDIX B

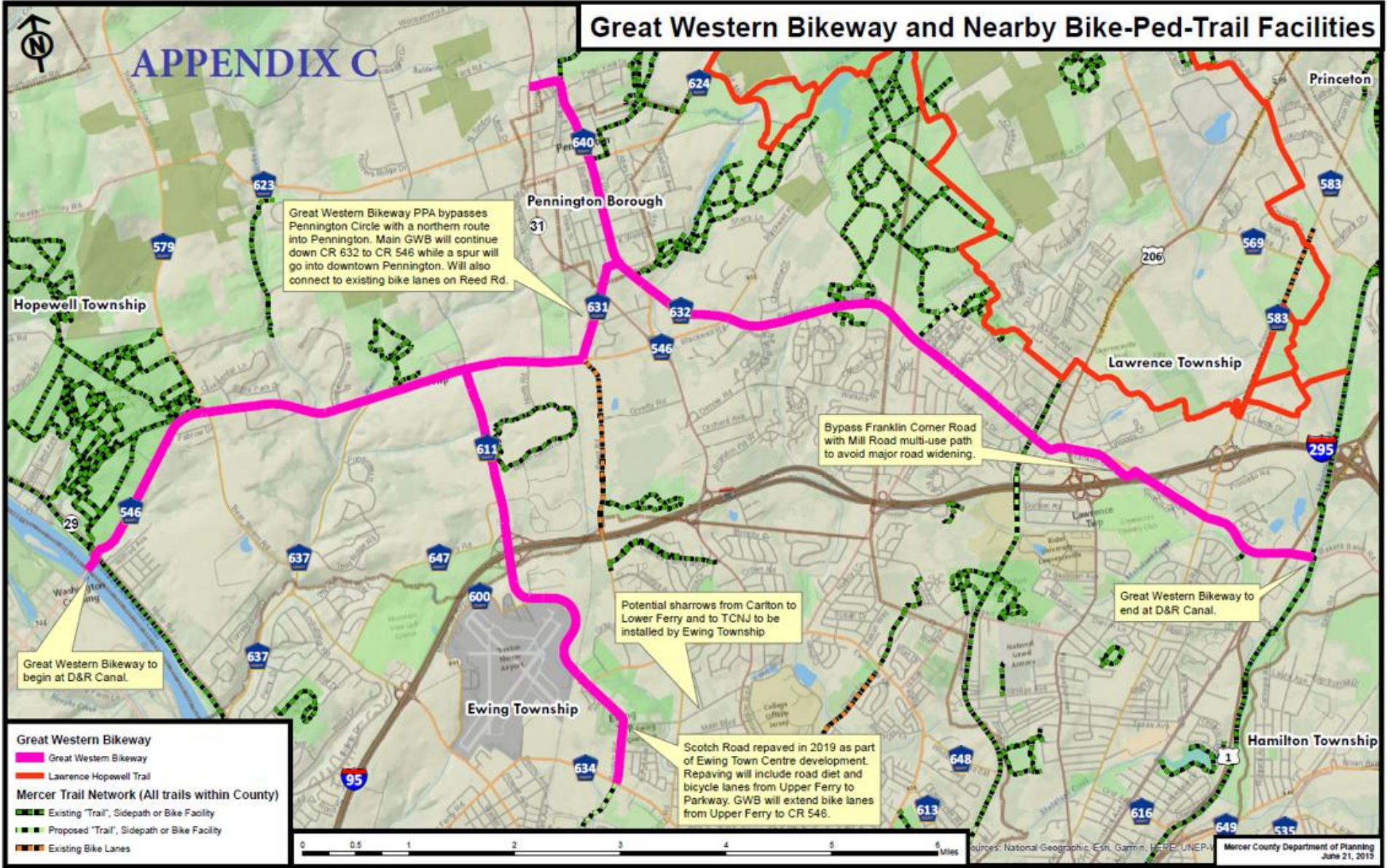


SUGGESTED ROUTES	BIKE RIDE	WALK / RUN
SHORT (<2 miles round trip)*	Carson Road Woods (5)	Carson Road Woods (5)
MEDIUM (2-5 miles round trip)	Keefe Road / Pole Farm to Rosedale Lake (13-14)	Keefe Road / Pole Farm to Rosedale Lake (13-14)
LONG (>5 miles round trip)	Village Park to Rosedale Lake (12-14)	Rosedale Lake to Main Street Lawrenceville (11-14)

*Also good for families with young children

Great Western Bikeway and Nearby Bike-Ped-Trail Facilities

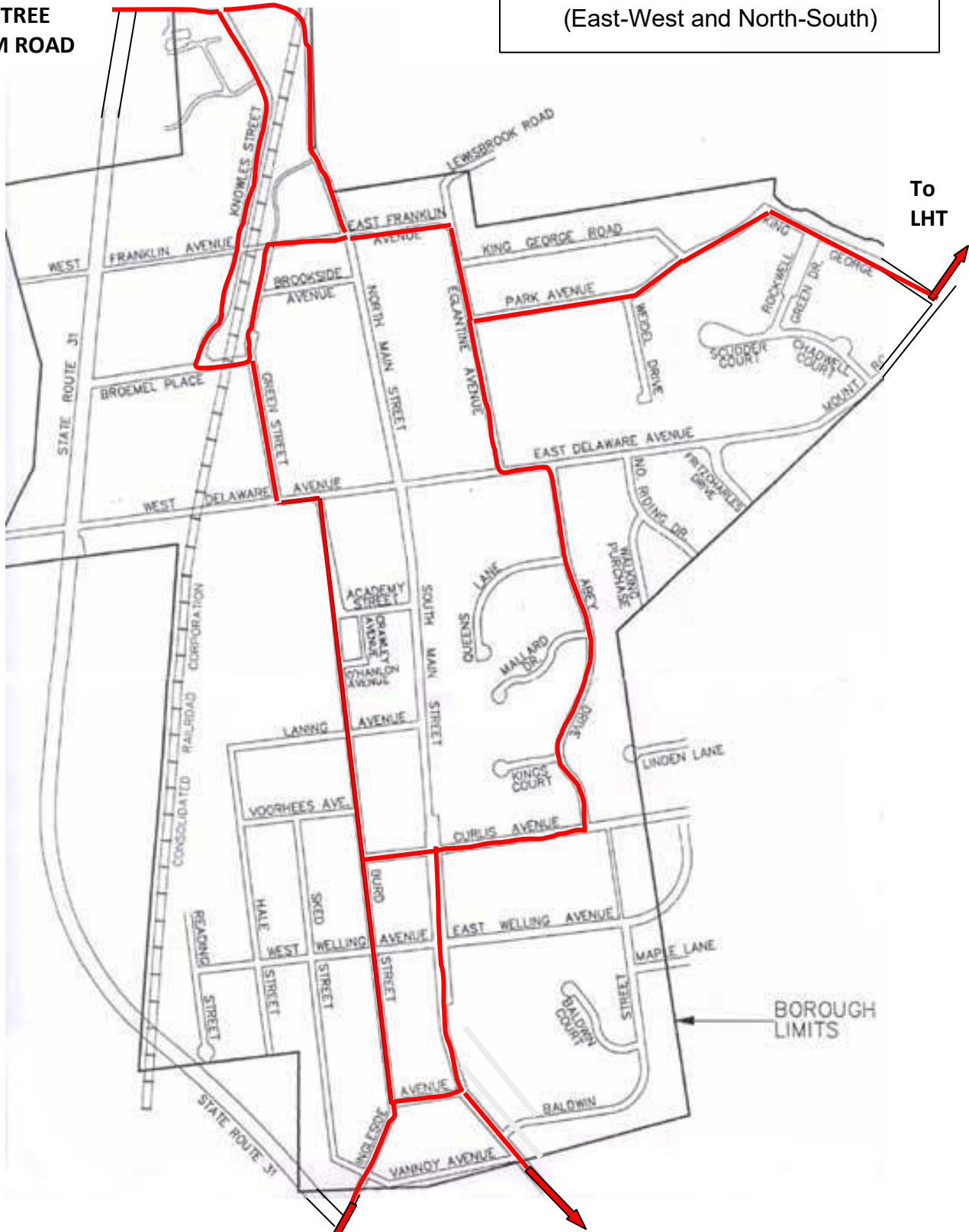
APPENDIX C



APPENDIX D

PROPOSED BICYCLE ROUTES
in and through Pennington
(East-West and North-South)

To TREE
FARM ROAD



To
LHT

To
ROUTE 546 BIKEWAY

Notes on this Revised Draft of the Conservation of Natural Resources Plan Element

This revised draft of the Conservation of Natural Resources will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the Conservation of Natural Resources Plan element, no goal conflicts with other Plan elements were found so no structural changes were needed.

Comments were received and some changes and additions to wording were incorporated. These are highlighted in yellow.

[These notes are for information only and will not appear in the final version of the element.]

Revised

MASTER PLAN
BOROUGH OF PENNINGTON
NEW JERSEY

8. Conservation of Natural Resources Plan Element (Revised)

The final draft of the Conservation of Natural Resources Plan element from the Environmental Commission was conditionally adopted by the Planning Board on June 12, 2024, and posted on the Borough website for public comment.

This revised version includes updates based on public comments and changes based on comparison of all elements to ensure consistency. These are highlighted in **yellow**. It will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

Contents

1. Introduction
2. Summary of Environmental Resources and Conditions
3. Conservation of Natural Resources Goals
4. Impacts of Other Elements of the Master Plan

Environmental Commission

Kieran John, Chair
Joann Held
Dan Rubinstein
Brian Friedlich
Jim Fuger
Nancy Fishman
Andrew Jackson
Yasmine Zein, Alternate #1
Nell Haughton, Alternate #2
John Valenza, Council Representative

1. Introduction

The Municipal Land Use Law (N.J.S.A. 40:55D-28(8)) defines the Conservation of Natural Resources Plan element as follows:

“A conservation plan element providing for the preservation, conservation, and utilization of natural resources, including, to the extent appropriate, energy, open space, water supply, forests, soil, marshes, wetlands, harbors, rivers and other waters, fisheries, endangered or threatened species wildlife and other resources, and which systemically analyzes the impact of each other component and element of the master plan on the present and future preservation, conservation and utilization of those resources”

The conservation of Pennington Borough’s natural resources can positively contribute to the health, quality of life, welfare, and safety of residents. The Conservation of Natural Resources Plan element assists in the conservation of the Borough natural resources by identifying and characterizing its environmentally significant features and by putting forth key goals for the Borough conservation efforts.

The Conservation of Natural Resources Plan element incorporates the 2024 Environmental Resources Inventory (ERI) of Pennington Borough, developed and approved by the Environmental Commission. The ERI can be found on the Borough website. It describes the Borough’s natural resource characteristics and environmentally significant features, including manmade features such as historic sites and contaminated sites. It provides baseline documentation for evaluating resource protection and is a dynamic document that should be periodically revised and re-adopted to capture changes in conditions. Together the ERI and the Conservation of Natural Resources Plan element provide documentation and form a basis for land use and other policy decisions, plans, and municipal functions.

The Borough’s 2025 Master Plan also contains an Open Space and Recreation Plan element and a Green Building and Environmental Sustainability Plan element (GBESE), whose contents may overlap at times with those of the Conservation of Natural Resources Plan element. This element focuses on the conservation of Pennington’s natural resources and leaves the preservation of open space and the conservation of energy to the other elements.

2. Summary of Environmental Resources and Conditions

Pennington Borough is located in northwest Mercer County, New Jersey, and occupies 0.96 square miles, over 90% of which is already developed. The Borough has a population of 2,802 people (2020, U.S. Census). The Environmental Resources Inventory (ERI) is the definitive document that describes the Borough’s environmental resources and conditions. The following is a summary of the categories covered:

1. **Geology.** Pennington is located at the southern edge of the Piedmont Plateau. The topography of most of the Borough is relatively mild, with gentle slopes, flat areas, and occasionally, steep slopes.
2. **Soils and Slopes.** A region's soil defines what vegetation is possible and impacts land uses. Pennington lies at the edge of the Piedmont Province and the Coastal Plain and contains a wide variety of soil types, with 60% of its soils classified as prime farmland. Most of the Borough is relatively flat, but there are some areas of steep slopes along the banks of Stony Brook and various tributaries, as well as along the embankments of the existing railroad lines.
3. **Land Use.** NJDEP Land Use/Land Cover mapping identifies approximately 63.5% of the Borough as urban, with residential areas comprising the majority. Less than 1% is classified as vacant land. Main roads are New Jersey State Highway Route 31 and Mercer County roads, 624/E. Delaware Ave., 640/N. Main St. and 631/Ingleside Ave. CSX railroad tracks traverse the Borough in a north-south direction.
4. **Open Space.** There are two parks in the Borough, Kunkel Park and Sked Street Park. Recently, the Borough began the development of a public arboretum in the woodland behind Toll Gate Grammar School. The Borough works actively with Hopewell Township, Mercer County and regional not-for-profit organizations to create, expand and maintain a permanently protected "green belt" of open space around or near Pennington, with access from the Borough where possible.
5. **Water Resources.** There are a total of 2.12 miles of stream flowing across Pennington Borough, including Lewis Brook, Stony Brook, Woolsey Brook, and several tributaries to these streams. There are also three features defined as waterbodies, lakes, or ponds by NJDEP, with 0.25 acres depicted as wetland. Three larger lakes in Hopewell Township surround the Borough; Rosedale Lake, Curlis Lake, and Baldwin Lake. The Borough is located on the Delaware and Raritan watershed line with Woolsey Brook flowing to the Delaware and Lewis Brook and Stony Brook flowing to the Raritan. Drinking water comes from four wells around the Borough that collect water via fractures in the bedrock of the Passaic formation. The Borough delivers about 80 million gallons of water per year to its users. Climate change is driving increases in intense precipitation that drives riverine and stormwater flooding. At the same time, climate change is likely to worsen droughts that could threaten our waterways and water supply. Finally, increasing temperatures will stress our waterways and can have a negative impact on water quality as harmful algal blooms thrive in warm waters that have excess nutrients delivered via stormwater runoff. While Pennington does not drink surface water from Stony Brook it does drain to areas that are relied upon by thousands for drinking water.

6. **Wastewater and Solid Waste Management.** Pennington Borough is responsible for the operation and maintenance of the wastewater collection system (i.e., pipes in the street) within the Borough. Treatment of this wastewater occurs at the Pennington Wastewater Treatment Plant (WWTP), which is owned by the Stony Brook Regional Sewerage Authority (SBRSA). Sludge from the plant is trucked to the WWTP receiving facility in Princeton for treatment and disposal. The Borough's Department of Public Works provides curbside trash and bulk item collection to all residents once a week, and the trash is taken to a Mercer County transfer facility in Ewing Township. Recycling is provided every other Tuesday through the Mercer County Improvement Authority. The Borough also collects leaves, brush and other yard waste.

7. **Climate and Air Quality.** Pennington Borough lies within the Central New Jersey climate zone, a temperate, continental climate influenced by airstreams that vary from hot and humid to dry and cold. Severe storm events, including thunderstorms, tropical storms, hurricanes, blizzards, ice storms, hailstorms, and tornadoes, all occur in Mercer County. Storms often result in flooding. Most recently, the remnants of tropical storm Ida hit New Jersey in September 2021 when 7.44 inches of rain fell within a 6-hour period in the Hopewell Valley area, resulting in severe flooding in Pennington Borough. Pennington is also prone to extreme heat that can impact residents and people working outside in the Borough. According to the NJDEP, 15 of the 20 hottest years recorded in New Jersey have occurred since 2000. This trend is expected to worsen over time. Information on how residents can cope with extreme heat can be found in the NJDEP website Heat Hub NJ (<https://heat-hub-new-jersey-njdep.hub.arcgis.com>). Air quality in the Borough is generally good as there are no major sources of air pollution located in or near Pennington, although large scale events such as wildfires can impact the region.

8. **Light and Noise Pollution.** The sources of light pollution impacting Pennington Borough are mostly not within the Borough itself. Local sources of light and noise pollution include the traffic on Route 31, as well as the lighting of parking lots, businesses, office parks, and athletic fields. Noise pollution comes from cars, motorcycles, trucks and trains and from lawn maintenance and leaf blowing. All noise pollution is regulated under chapter 133 in Pennington Borough Code.

9. **Vegetation and Wildlife.** Pennington's natural areas face ongoing and emerging threats to natural ecological balance. Non-native, invasive species pose a significant threat by crowding out native species and reducing biodiversity. Climate change impacts the range of flora and fauna as well as growing conditions. The white-tailed deer population has grown, negatively impacting the ecosystem and adversely affecting public safety with auto collisions and exposure to Lyme disease. On the positive side, Pennington has been

recognized as a Tree City for over 30 years, and the Borough has a Community Forestry Management Plan as well as ordinances on street trees and on tree management on private property.

10. **Contaminated Sites.** In Pennington Borough there are two active contaminated sites on the NJDEP Known Contaminated Sites (KCS) list:

- a. The former Pennington Borough Sanitary Landfill. This case is being remediated under the Licensed Site Remediation Professional (LSRP) program. Remediation started in September 2019.
- b. The Tiger Mart site (Exxon gas station) at the corner of Route 31 and West Delaware Avenue This is a post-remedial case with a Remedial Action Permit (RAP) for institutional control in place.

Progress on these and any future sites can be monitored on the NJDEP Website https://experience.arcgis.com/experience/f26272f8a41c4aeea77ac6f9b3c80ebb/page/Explorer-Web-Map?utm_medium=email&utm_source=govdelivery&views=Known-Contaminated-Sites-List

In summary, the Environmental Resource Inventory catalogues the Borough's natural resources and characteristics and should be utilized by residents and officials in decision-making, particularly as the Borough plans for climate impacts. It is useful to residents who wish to identify potential resource issues on their property and in their neighborhood as well as to officials reviewing development applications. While the Borough is a suburban landscape, our natural resources are critical to the resilience, health and well-being of our residents and can serve as a biodiversity oasis as areas around us are impacted by development and climate change.

3. Conservation of Natural Resources Plan Element Goals

The goals of the Conservation of Natural Resources Plan element are as follows:

1. Coordinate development to preserve, enhance and where possible restore natural resources and natural functioning systems (e.g., floodplains, habitats) with a focus on environmental health, climate resilience and biodiversity.
2. Guide growth away from natural resources into areas with existing infrastructure.
3. Limit disturbance of environmentally sensitive lands such as steep slopes, floodplains, wetlands, forested lands, critical habitat, and unique environmental features.
4. Protect water quality for drinking, recreation, irrigation, shade, flood mitigation, and natural habitat.

5. Encourage the removal and replacement of non-native plantings and protect and restore natural vegetation.
6. Manage nuisance and invasive species to protect native ecosystems and biodiversity.
7. Preserve contiguous natural lands to minimize habitat fragmentation and maximize the benefits of preservation.
8. Preserve and enhance existing visual resources such as scenic corridors, tree-lined streets, and woodlands.
9. Foster stewardship and management of already preserved lands and natural resources.
10. Preserve and enhance riparian zones to minimize flooding, maximize water quality and protect aquatic habitats.

4. Impacts of Other Elements of the Master Plan

Pennington Borough addresses natural resource conservation in the other elements of the Master Plan where relevant. The impacts of other elements on the conservation of natural resources include:

Land Use Plan Element. The Land Use Plan element relates to the Borough's zoning and potential redevelopment areas. Future development should aim to conserve, restore and build the resilience of the Borough's natural resources through the preservation of open space and by observing the principles of sustainable development. The Land Use Plan element includes a Climate Change Vulnerability Assessment of the risk to the Borough of climate change-related natural hazards, which will impact natural resources as well as residents and borough businesses.

Public Works Services Plan Element. This element primarily concerns the Borough's energy, drinking water, waste management and recycling, wastewater and sewage, and stormwater management systems. The maintenance and improvement of these systems is consistent with several goals of this Conservation of Natural Resources Plan element. In particular, the improvement of the Borough's stormwater management system can reduce the quantity of pollutants that flow into the Borough's waterbodies as stormwater runoff.

Open Space and Recreation Plan Element. Both the Open Space and Recreation Plan element and the Conservation of Natural Resources Plan element encourage the preservation of the Borough's natural spaces. Open space preservation protects wildlife habitats, natural vegetation, trees, and can contribute to stormwater management and pollutant reduction.

Green Buildings and Environmental Sustainability Plan Element. Buildings that incorporate energy efficiency, water conservation and reuse, and other green building practices can greatly contribute to the conservation of Pennington Borough's natural resources. The strategies

discussed in the Green Buildings and Environmental Sustainability Plan element will be key in achieving the goals of the Conservation of Natural Resources Plan element, and in reducing the Borough's carbon footprint.

Revised

Notes on this Revised Draft of the GBESE

This revised draft of the GBESE will be presented to the Planning Board for endorsement at its meeting on October 8, 2025. It was approved by the Environmental Commission on August 29, 2025. Comments will be considered by the MPC and appropriate changes made before presentation to the Planning Board for final adoption.

The MPC decided that to avoid future confusion when elements may be updated, any goal for a particular topic will appear in only one element in the Master Plan. Reference to overlapping topics will be included in the background text of the secondary element (s), to confirm that the topic has been considered, and the Plan element with the associated goals will be identified.

For the GBESE, the following duplication issues were identified:

1. Stormwater: Strategies for managing stormwater on site will be in the GBESE. Managing stormwater at the municipal level will be found in the Utility Services Plan element.
2. Electric Vehicle Charging: Strategies for installing Level 1 and 2 charging in buildings and small developments will be in the GBESE. Commercial Level 2 and 3 charging installations at strategic locations in the Borough will be covered in the Mobility Plan element.
3. Mobility: All mobility issues for large vehicles such as cars, trucks and buses, and personal mobility such as walking, bicycling, scooters and skateboards, including battery-powered, and the roads, sidewalks and other routes in the Borough will be found in the Mobility Plan element. Only driveway mobility issues will be in the GBESE.
4. Waste Management: Although waste management and recycling are of importance to residents, it is not included in the MLUL description of the GBESE. These topics are covered in detail in the Utility Services Plan element. The GBESE will include goals related to construction waste from the development of a site.
5. Climate Change-Related Hazard Vulnerability: Hardening of individual buildings and sites against the effect of hazards due to climate change will be in the GBESE. Assessing the hazards to the whole community will be in the Land Use Plan element in a new section mandated by the MLUL, the Climate Change-Related Hazard Vulnerability Assessment (CCRHVA).
6. Community Energy Use and Greenhouse Gas Emissions: The goals for reducing energy use and emissions by Borough operations, residents and commercial institutions that were in the Utility Services Plan element have been consolidated with those in the GBESE. The goals have been removed from the Utility Services Plan and are discussed in that plan by reference.

During the revision, comments from the public received after the conditionally adopted elements were published on the website have been considered and changes made where appropriate.

[These notes are for information only and will not appear in the final version of the element.]

MASTER PLAN
BOROUGH OF PENNINGTON
NEW JERSEY

11. Green Buildings and Environmental Sustainability Plan Element (Revised)

The final draft of the Green Buildings and Environmental Sustainability Plan element (GBESE) from the Environmental Commission was conditionally adopted by the Planning Board on November 13, 2024, and posted on the Borough website for public comment.

This revised version includes updates resulting from public comments, and changes based on comparison of all elements to ensure consistency with other Plan elements. These are highlighted in yellow. The revised draft was approved by the Environmental Commission on August 25, 2025, and will be presented to the Planning Board for endorsement at its meeting on October 8, 2025, prior to final adoption at a public meeting later in 2025.

Contents

Introduction

Vision

Goals

Core Topics

- A. Climate Change and Greenhouse Gas Emissions
- B. Renewable Energy and Energy Conservation
- C. Green Building and Design
- D. On-Site Water Management**
- E. Land Use, Mobility and Waste Management**

Impact on Other Elements of the Master Plan

GBESE Team:

Yasmine Zein (principal author), Jim Fuger, Amy Kassler-Taub, Kate O’Neill, Nadine Stern, Brian Friedlich, Meredith Moore, Kieran John and Andy Jackson.

Introduction

In 2008, the Municipal Land Use Law (MLUL) was amended to include the Green Building and Environmental Sustainability Plan Element as a permitted Master Plan Element in N.J.S.A. 40:55D-28 (16). The definition of this element was revised in 2024 and is as follows:

“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, encourage and promote the development of public electric vehicle charging infrastructure in locations appropriate for their development, including but not limited to, commercial districts, areas proximate to public transportation and transit facilities and transportation corridors, and public rest stops; 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.”

Development decisions, which are guided by the Master Plan, have the potential to impact a community’s local environment, resilience to natural hazards, and contribution to climate change. Incorporating sustainability into the Master Plan is a vital step in the Borough’s efforts to preserve our natural resources and operate in a truly sustainable manner, ensuring a healthy and thriving environment for future generations.

This Green Building and Environmental Sustainability Plan Element (GBESE) is intended to ensure that future planning and development in Pennington Borough enhances the environmental sustainability and resilience of the community and minimizes negative effects resulting from its environmental footprint. It also encourages the reversing of negative effects from previous development. Specifically, its purpose is to guide and serve as a basis for Borough land use decisions, ordinances, and policies that are related to buildings and sustainability.

Sustainability as a concept can be interpreted in different ways. The United Nations Commission on Environment and Development defines sustainable development as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.” Following green building practices, reducing carbon emissions, and otherwise pursuing sustainability as addressed in this and other elements in the Master Plan will benefit current and future generations of Borough residents, and will contribute to regional, national, and global reductions in greenhouse gas emissions.

There is overlap of some topics in the MLUL description for the GBESE and in the descriptions of other elements in the Master Plan. To avoid future confusion when elements may need to be updated, the goals for a particular topic will appear on only one element in the Master Plan. Reference to these topics will be included in this element and in the text of the secondary elements, where appropriate.

Vision

The GBESE envisions a sustainable, healthy, and resilient Pennington Borough where the quality of life of both current and future residents is preserved and enhanced through:

- The protection of our natural resources.
- Dedication to sustainable development practices.
- Reduction or elimination of our impact on the local and global environments.
- The restoration of previously damaged resources, sites, and waterways.

The GBESE team of the Environmental Commission has developed this element with an overarching aspiration to be a community that thrives socially and economically, while minimizing any detrimental impact on the environment, and recognizing that human health and safety depends on improvements to the health of the environment.

Core Topics

This GBESE addresses sustainability in **five** main areas:

- A. Climate Change and Greenhouse Gas Emissions
- B. Renewable Energy and Energy Conservation
- C. Green Building and Design
- D. On-Site Water Management**
- E. Land Use, Mobility and Waste Management**

After an introduction to each topic, goals are presented. Sustainability considerations should be incorporated into all of the Borough's planning and zoning decision-making.

A. Climate Change and Greenhouse Gas Emissions

According to NJDEP's 2020 Scientific Report on Climate Change, New Jersey will experience significant direct and indirect changes in its environment due to climate change, which is caused largely by human activities in the form of greenhouse gas emissions. The impacts that New Jersey has experienced and will continue to experience include more severe storm events, higher temperatures and heatwaves, more frequent precipitation and flooding, and others. To minimize the effects of climate change on our ecological systems, natural resources, human health, and economy, we must pursue strategies that will improve our resilience to, and reduce our contribution to, climate change.

Goals aimed at increasing the resilience of individual buildings and sites against the effect of hazards due to climate change will be in this GBESE. Assessing the hazards to the whole

community will be in the Land Use Plan element in a new section mandated by the MLUL, the Climate Change-Related Hazard Vulnerability Assessment (CCRHVA).

In 2021, the Borough resolved that municipal operations would become carbon neutral by 2035 (Resolution 2021-3.4). This resolution also states that the Environmental Commission will report to the Council on an annual basis the amount of CO₂e released and offset by the Borough and assist the Borough in developing strategies to migrate away from carbon energy sources. Finally, the resolution asks the Environmental Commission to educate and encourage residents to become carbon neutral. The goals associated with advancing this resolution are in this Plan element.

Climate Change and Greenhouse Gas Emissions Goals

Goal 1: Achieve zero CO₂e emissions in municipal operations by 2035.

- a) The Environmental Commission will conduct an annual analysis of municipal CO₂e emissions.
- b) Develop a plan to reduce CO₂e emissions in municipal operations, which may include strategies related to buildings, vehicle fleets, lighting, and water use.
- c) CO₂e offset opportunities should be explored since CO₂e emissions from grid electricity generation are beyond the Borough's control.

Goal 2: Stimulate a reduction in CO₂e emissions by borough residences and businesses.

- a) Encourage Borough residents and businesses to reduce their emissions through energy choices, energy conservation measures, and green design practices.
- b) Support the purchase and production of renewable energy.
- c) Adopt ordinances that facilitate the production of renewable energy within the municipality.
- d) Increase housing density, support the establishment of downtown businesses, and encourage residents to shop locally to reduce the need for vehicle travel. Make visiting the town center more inviting for pedestrians, bicyclists and personal mobility vehicle riders with better sidewalks and road markings, and other incentives.
- e) Support the use of electric vehicles and residential battery energy storage.
- f) Continue to coordinate sustainability efforts with neighboring municipalities.
- g) Pursue regulation and electrification of yard maintenance equipment such as lawn mowers, trimmers, leaf blowers and chain saws, to eliminate GHG and other air polluting emissions and to reduce noise.

Goal 3: Improve resilience and response of sites and building to the impacts of climate change.

- a) Use best practices when adapting buildings to withstand the hazardous impacts of climate change, such as wind, hail, ice storms and heavy rain.
- b) Improve stormwater management on individual sites to reduce the contribution towards municipal flooding related to extreme storm events.
- c) Manage stormwater using green infrastructure best management practices and by educating residents about their role in stormwater management.

- d) Update building and infrastructure design standards to account for projected increase in flooding due to climate change.

B. Renewable Energy and Energy Conservation

Transitioning to renewable energy sources and conserving energy are two ways that the Borough can reduce carbon emissions and become more sustainable. In addition, pursuing renewable energy and energy conservation has the potential to improve resilience over traditional energy systems, such as centralized electricity generation and fossil fuels.

The Borough can support the sustainability of the energy system by promoting strategies such as the use of renewable energy sources with domestic battery energy storage, local energy production, energy conservation practices, and electric vehicles. This core topic is closely linked to the Climate Change and Greenhouse Gas Emissions and the Green Building and Design core topics. Strategies for installing Level 1 and 2 charging in buildings and small developments will be in this GBESE. Commercial Level 2 and 3 charging installations at strategic locations in the Borough will be covered in the Mobility Plan element.

Renewable Energy and Energy Conservation Goals

Goal 1: Improve the overall energy efficiency of the Borough.

- a) **The Environmental Commission will** develop and maintain a Community Energy Plan for the Borough.
- b) Continuously improve the energy efficiency of Borough operations.
- c) Improve the efficiency of municipal buildings through green building practices and energy conservation measures.
- d) Employ **residential and commercial** building and site design practices that reduce total energy usage.
- e) All appliance replacements or new installations should meet Energy Star standards. See: <https://www.energystar.gov>
- f) Encourage and support the efforts of residents and businesses to conserve energy by being a resource for information on new technology and products and on government and private financial incentives.
- g) Support the use of smart grid technologies such as smart meters with the opportunity for interactive supply and pricing decisions.

Goal 4: Electrify buildings and the transportation sector.

- a) Support the electrification of residential and commercial buildings (e.g., installation of electric appliances and heat pumps) through education and outreach regarding technology and rebates.
- b) **Move towards using electricity as the sole energy source for public facilities and operations and continue to improve energy efficiency.**

- c) Facilitate the installation of Level 2 (220V) or Level 3 (440V) electric vehicle charging stations at central locations for residents without a suitable private location, such as a garage or driveway, for charging.
- d) Encourage all new development to install Level 2 (220V) electric vehicle charging.
- e) Support the installation of Level 2 (220V) electric vehicle charging in existing homes.
- f) **When Borough Public Works vehicles, Police vehicles and other mobile utility equipment need replacing, prioritize the purchase of electric or hybrid alternatives.**

Goal 5: Encourage the use of renewable energy sources.

- a) **Install solar photovoltaic panels on municipal buildings and parking lots and seek opportunities to leverage any agreements to benefit community-wide solar installations.**
- b) Encourage residents to enroll in community solar programs.
- c) Support the use of solar panels on private structures and land through solar friendly zoning, permitting **and exclusion from value addition for real estate taxes.**
- d) Explore the potential to use geothermal energy for heating and cooling.
- e) **Apply for incentive grants through New Jersey's Clean Energy Program.**
- f) **The Environmental Commission** should act as an information resource for other grants and incentives that can accelerate the transition to renewable energy sources in the public and private sector.

C. Green Building and Design

Improving the sustainability of our buildings will be essential to achieving overall sustainability. In the US, buildings account for 41% of total energy consumption, 72% of electricity consumption, 39% of carbon dioxide emissions, and 14% of potable water usage (US Green Building Council, Benefits of Green Building). In terms of total energy consumption, buildings out-consume the industrial and transportation sectors. Green design not only makes buildings more efficient but also reduces the impact of buildings on the surrounding environment.

Requiring the use of green building practices for the construction and renovation of municipal buildings would improve the Borough's sustainability across all the core topics. Green building and design should also be encouraged for private development. The US Green Building Council's Leadership in Energy and Environmental Design (LEED) certification program is the industry standard for green buildings (<https://www.usgbc.org/leed>). Building to meet LEED certification standards is an effective way to ensure that buildings are green and sustainable and should be strongly encouraged in the Borough. Other green building certifications and frameworks should also be considered and encouraged. It is recognized that these programs may be modified, or new ones developed, during the life of this element. It is understood that the most current versions would be recommended.

The US Green Building Council provides extensive libraries of green building strategies. For example, to make its buildings sustainable, the Borough and its residents can: design building

envelopes to reduce heating, cooling, lighting, and ventilation loads; set performance targets for energy, water, and waste; use passive and active renewable energy to meet energy loads; select water-efficient plumbing fixtures and appliances; design infrastructure to support non-fossil fuel transportation; eliminate the use of potable water for irrigation; reduce and recycle demolition and construction waste, and other strategies.

Pennington Borough's current Building and Construction Requirements consist of NJ State Uniform Construction Code <https://www.nj.gov/dca/codes/codreg/ucc.shtml> and its adopted model codes:

1. 2021 International Building Code New Jersey Edition (effective 3/1/23)
<https://codes.iccsafe.org/content/NJBC2021P1>
2. 2021 International Energy Conservation Code (IECC)
<https://codes.iccsafe.org/content/IECC2021P2>
3. 2021 International Residential Code New Jersey Edition
<https://codes.iccsafe.org/content/NJRC2021P1>

These codes do not include Green Building requirements that align with USGBC, or similar, Green Building standards. Additionally, LEED and/or other similar certification programs are not currently a requirement for construction in Pennington Borough. However, ordinances can be written and approved, and codes can be adopted, to provide Green Building requirements for building and construction to conform with the recommendations in the Master Plan.

According to the U.S. Green Building Council, "*LEED-certified homes are designed to provide clean indoor air and ample natural light and to use safe building materials to ensure our comfort and good health. They help us reduce our energy and water consumption, thereby lowering utility bills each month, among other financial benefits. Using the strategies outlined in LEED, homeowners are having a net-positive impact on their communities. LEED homes are also designed, constructed and operated to be resilient in adverse conditions and are developed with proactive design planning for potential impacts of catastrophic weather.*"

<https://www.usgbc.org/leed/rating-systems/residential>

This is clearly aligned with the MLUL definition for the GBESE.

The U.S. Green Building Council uses six rating methods for LEED certification:

1. Building Design and Construction (BD+C)
2. Interior Design and Construction (ID+C)
3. Building Operations and Maintenance (O+M)
4. Neighborhood Development (ND)
5. Residential
6. Cities

Certification comes in four categories, Platinum, Gold, Silver and Certified, which allows the certification process to be introduced in a graduated manner. <https://www.usgbc.org/leed>

Many of the goals set forth in other elements in the Master Plan align to LEED standards. LEED isn't necessarily restricted to buildings - it extends to site, resource allocation, infrastructure, etc.

Zoning that takes a sustainable approach will inherently end-up creating beneficial conditions for LEED buildings, sometimes making it more economically feasible to achieve LEED or other certification. The rating system is in part designed to incentivize sustainability through mutually beneficial development.

Green Building and Design Goals

Goal 1: Implement and incentivize green building and sustainable site design practices and conduct energy modeling to evaluate and optimize building design for energy efficiency.

- a) Strongly encourage the use of certification programs such as LEED, or a comparable rating from another program, for new construction, renovations, additions, development and redevelopment projects, and for landscaping.
- b) Ensure municipal building renovations, and new municipal buildings, meet LEED Certified standards.
- c) Improve code standards and update the building permit processes to reflect and support sustainable building practices.
- d) Incentivize green building practices in the permitting process by expediting permits and green-relevant variances, and other strategies.
- e) Encourage sustainable innovation in new construction and in existing buildings.
- f) New construction design should include building thermal performance, on-site renewables, commissioning of building systems and energy efficiency strategies.
- g) Encourage collaboration between new construction and renovation design teams and the Environmental Commission early in the design process.

Goal 2: Reduce environmental impacts during new construction and renovation.

- a) Create construction site management policies to encourage low noise and low emission equipment, manage stormwater and reduce water use.
- b) Reduce dependency on fossil fuels during construction and renovation.
- c) Encourage the development and use of a construction waste management plan that incentivizes recycling and reduces construction waste.

Goal 3: Reduce the environmental impact of existing buildings by retro-commissioning to identify and address performance issues.

- a) Conduct sustainability audits of existing municipal buildings to identify opportunities for improvement.
- b) Assess existing residential properties and suggest strategies for resiliency in climate change, e.g. rainwater management, heat island reduction.
- c) Reduce dependency on fossil fuels for building construction and operation.
- d) Encourage the collection and reuse of stormwater, and the use of grey water systems.
- e) Enhance lighting ordinances to satisfy concerns of sky shine at night.

Goal 4: Encourage adaptive reuse, historic preservation, energy retrofits, and upgrades to existing buildings instead of demolition and replacement.

- a) Encourage the calculation of the energy embodied in new construction and new material manufacturing, to demonstrate the energy, greenhouse gas and natural resources savings possible from adaptive reuse and retrofits.
- b) Identify and abate lead hazards and risks in buildings and infrastructure built before 1978, as recommended by the EPA.

D. On-Site Water Management

Sustainability measures that protect the Borough’s water quality and quantity can help ensure that residents have reliable access to clean water. The Borough should actively work to protect its bodies of water and related infrastructure, including the four active wells that supply all the Borough’s water. The health of the watershed and the natural water cycle is essential to the quality of a water utility (including recharge, natural filtration and aquifer protection).

The water supply can be stressed during droughts, which are predicted to occur more frequently due to climate change. In addition, intense rainfall and storm events, which will also increase in frequency, can cause flooding that may negatively impact water quality. Water quality is a known issue in New Jersey, where most streams, lakes, and rivers are classified as impaired (NJ DEP, 2022 Integrated Water Quality Assessment Report). Total Maximum Daily Load (TMDL) studies have also been published to set goals for pollutant load reductions for Pennington Borough’s watersheds.

To protect our water resources, the Borough should pursue strategies that reduce water usage, protect water quality and quantity, manage stormwater, and reduce flooding. **Strategies for managing stormwater on site will be in this GBESE. Goals for managing stormwater at the municipal level will be found in the Utility Services Plan element.**

On-Site Water Management Goals

Goal 1: Encourage the conservation of water by Borough residents and businesses.

- a) Conserve water in municipal buildings and encourage water conservation practices among residents and businesses.
- b) Install water-efficient appliances and fixtures.
- c) Harvest rainwater and reuse grey water for landscape watering and irrigation.
- d) Use native plants that require little to no irrigation for landscaping.

Goal 2: Minimize **site-specific impacts on** storm water pollution throughout the Borough.

- a) **Determine if existing buildings have inflow or infiltration into the wastewater exit pipe.**
- b) Direct development away from riparian areas, wetlands, wetland buffers, and flood hazard areas.
- c) Conduct education and outreach programs to encourage behavior that reduces water pollution.

Goal 3: Reduce flooding and pollution through improved **on site** stormwater management.

- a) Reduce or eliminate disturbance to natural stormwater systems on site and use green infrastructure.
- b) Require site designs to limit impervious surfaces and set infiltration rates.
- c) Update design standards to account for a projected increase in flooding and precipitation.
- d) Support the full or partial replacement of lawns with meadows to support biodiversity, absorb stormwater and reduce emissions and noise from lawn mowing and leaf blowing.

Goal 4. **Take every opportunity to restore developed sites and address the impact of past development on current storm water problems and other environmental issues.**

- a) Establish guidelines for redevelopment that encourage restorative design, aiming to enhance the resilience of previously developed sites.
- b) Treat the redevelopment and investment in previously developed land as an opportunity to repair/restore the sites through enhanced stormwater ordinances.
- c) Retrofit municipal facilities with green infrastructure to retain stormwater on site and encourage the same for private development; potential green infrastructure tools include rain gardens, bioswales, green streets, green and blue roofs, and vegetated islands.

E. Land Use, Mobility and Waste Management

The Land Use Plan element of the Master Plan should follow the 10 “Smart Growth” principles developed by the Smart Growth Network with the support of the Environmental Protection Agency (EPA). See: <https://www.epa.gov/smartgrowth/about-smart-growth>. The principles aim to improve community resilience, health, diversity, and sustainability and are listed here:

1. Mix land uses such that residential, commercial, and recreational are in close proximity.
2. Take advantage of compact building design.
3. Create a range of housing opportunities and choices.
4. Create walkable neighborhoods.
5. Foster distinctive, attractive communities with a distinct sense of place.
6. Preserve open space, farmland, natural beauty, and critical environmental areas.
7. Strengthen and direct development to existing communities.
8. Support the provision of a variety of public transportation choices.
9. Make development decisions predictable, fair, and cost-effective.
10. Encourage community and stakeholder collaboration in development decisions.

Land use is often a key determinant of whether alternative transportation options and electric vehicles are feasible for residents. Increasing town density, mixing land uses, offering a variety of transportation choices, providing the appropriate infrastructure for walking, biking, and electric vehicle charging, and other strategies consistent with the smart growth principles encourage more sustainable travel within and through the Borough.

Vehicles powered by gasoline, diesel and natural gas are major emitters of greenhouse gases. Reductions in emissions can be achieved by encouraging alternative modes of transportation, such as shared or public transportation, walking, and biking, with the goal of reducing the total vehicles miles traveled (VMT) by Borough residents.

Electric vehicles are a promising alternative to fossil fuel-powered cars. Rather than filling up on fuel at a gas station, electric vehicles need to be plugged into a power source to charge. Therefore, building electric vehicle charging stations at central locations and supporting the installation of charging stations in homes can help encourage electric vehicle uptake by making charging more convenient.

The conflict between the need for residential and commercial parking and the desire for dedicated bike and micro-mobility lanes will have to be resolved equitably.

The goals for the above topics can be found in the Land Use and Mobility Plan elements.

Reducing waste and increasing recycling are key components of environmental sustainability. It reduces consumption of new raw materials, energy use (from production of new materials), air pollution (from solid waste incineration) and water pollution (from landfills). Although waste management and recycling are of importance to residents, it is not included in the MLUL description of the GBESE. These topics are covered in detail in the Utility Services Plan element. Section C, Green Building and Design, of this GBESE includes a goal related to the disposal of construction waste created during the development of a site.

Impact on Other Elements of the Master Plan

Master Plan elements Green Buildings and Environmental Sustainability, Conservation of Natural Resources, Open Space and Recreation, and Historic Preservation set the tone for sustainability and environmental sensitivity in Pennington Borough. Each impacts the health and wellbeing of residents and the health of the environment. Other elements should follow the lead of these four elements in shaping the town through land use, housing, utilities, mobility, economic development and community facilities. Specific impacts of the GBESE on other Master Plan elements are as follows.

Land Use Plan Element.

The Land Use Plan Element relates to the Borough's zoning and potential redevelopment areas. It will be impacted by several topics in the GBESE.

- Section A, "Climate Change and Greenhouse Gas Emissions" and its goals and strategies will have direct application to the "Climate Change-Related Hazard Vulnerability Assessment" (CCRHVA) which will be included in the Land Use Plan element.

- The Land Use Plan element should be cognizant of the 10 “Smart Growth” principles developed by the Smart Growth Network, as listed in Section E.

Housing Plan Element

Much of the new Housing Plan element will focus on the development of affordable housing to meet the Borough’s court-determined obligation.

- Section C, “Green Building and Design,” should be considered in the new Housing Plan element, particularly regarding the construction of affordable housing through accessory dwelling units, individual homes or small communities.
- Goals 2 and 3 of Section B, “Renewable Energy and Energy Conservation,” should be observed for the selection of energy sources and energy-efficient appliances.
- Goal 2 and 3 from Section A, “Climate Change and Greenhouse Gas Emissions,” is important to consider when selecting sites for housing, as are many of the water management goals and strategies in Section D.

Mobility Plan Element

The Mobility Plan element covers the safe and efficient movement of people and goods in the Borough. It will recommend ways to reduce greenhouse gas and other pollutant emissions from transportation. It will also change the focus from cars to the accommodation of pedestrians, bicycles and users of personal micromobility vehicles, including electric. Each of these will complement the sustainability goals in the GBESE.

Utility Services Plan Element.

The Utility Services Plan element covers water supply and distribution, drainage and storm water management, sewerage, solid waste disposal, and the maintenance of borough roads and facilities. Successful implementation of many of the goals in the Utility Services Plan element have a direct impact on sustainability. GBESE goals on reducing greenhouse gas emissions and energy efficiency will impact Public Works Department operations. Green building and renewable energy goals will apply to municipal facilities.

Open Space and Recreation Plan (OSRP)

The goals of the OSRP are complementary to the sustainability aspect of the GBESE. Successful implementation of these goals will have a beneficial effect on the health and wellbeing of residents through opportunities for recreation and supported activities.

Conservation of Natural Resources and the Borough Environmental Resource Inventory (ERI)

The conservation of natural resources is a critical aspect of sustainability and is addressed in the Conservation of Natural Resources Plan element. The Environmental Resources Inventory

provides a host of valuable information about the Borough and its natural resources and is a valuable source of data of potential use in the implementation of the GBESE goals.

Economic Development Plan

Many of the goals in the GBESE apply directly to the facilities used for businesses and commercial organizations. The goals should steer the design and building of new facilities and retrofits for business use. The energy goals in the GBESE are also applicable to businesses.

Historic Preservation Plan

The preservation of historic buildings in the Borough is aligned with sustainability. The energy and green building goals in the GBESE are directly applicable to the restoration of historic buildings.

Revised