



# Upper Providence Township Sustainability Task Force

## A Roadmap to Sustainability

Sep 27, 2023

Upper Providence Township  
Media, PA, Delaware County | [www.UpperProvidence.org](http://www.UpperProvidence.org)



## ACKNOWLEDGEMENTS

The Upper Providence Township (UPT) Task Force is a diverse group of community members under the leadership of UPT Council Vice Chair Dr. Christen Rexing.

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*"Nature is not a place to visit, it is home." –Gary Snyder.*



**Louis W. Scott Memorial Park, Upper Providence Township**

*Pictures courtesy of Mareile Watson*

### Disclaimer:

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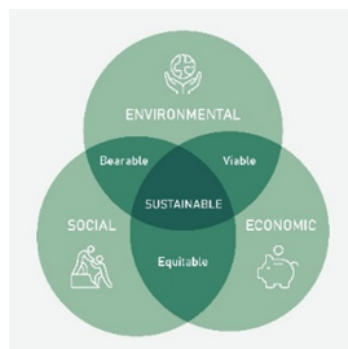
## INTRODUCTION

In January 2023, a group of Upper Providence Township residents came together to create the Sustainability Task Force (STF) with the goal of advocating for and exploring sustainable development initiatives within the community. They held monthly meetings to research, discuss, and examine strategies that stand to help Upper Providence Township transition to a healthier, more sustainable future. In addition, STF asserts that adopting some of these greener practices town-wide will increase the point value for UPT in the Sustainable Pennsylvania Certification Program. This will improve the township's chances of obtaining grants and loans from the Pennsylvania Department of Community and Economic Development (DCED) to use for the greater public good.

The overall goals of the UPT Sustainability Task Force are to

- research environmentally responsible and economically feasible policies aimed at the fair and equitable distribution of public services so that every community member can thrive.
- look to models of best practices in similar municipalities regarding regulating the use and development of public land and preserving and protecting our Township's abundant natural resources and open spaces.
- increase accessibility to businesses, restaurants, parks, schools, etc., through improved parking, biking, and sidewalk infrastructure.
- improve electric vehicles (EVs) and charging station infrastructure.
- investigate and promote sustainable practices that positively affect the health and well-being of the people and environment in Upper Providence Township by reducing overall household waste tonnage. This entails but is not limited to
  - reducing and eliminating excess plastic waste.
  - composting and reducing food waste.
  - cutting down significantly on yard waste.
  - lowering greenhouse gas and carbon emissions.

STF looked at comparable policies in nearby boroughs and municipalities, however, they also did a lot of local fact-finding and collaboration to help assess the specific needs and readiness of UPT. It was agreed that when creating a sustainability plan, consideration should be given to the three pillars of sustainability: economic viability, environmental protection, and social equity.



Credit: Shutterstock



## WHAT IS SUSTAINABILITY?

**“Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. To pursue sustainability is to create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations.”** <https://www.epa.gov/sustainability/learn-about-sustainability>

The concept of sustainability was developed as a framework to help individuals, businesses, and organizations examine the real costs of their choices, and make better decisions for the future.

It is a three-pillar model based on the following dimensions:

### 1. Environmental

This involves limiting pollution, preserving biodiversity, and reducing our carbon footprint.

### 2. Economic

This pillar stresses that all economic activities should be carried out responsibly and in a way that benefits the environment, society, and future generations. This includes investing in renewable energy sources, creating jobs for locals, and promoting responsible consumption habits.

### 3. Social

It focuses on ensuring that all people are treated fairly with dignity and respect.

It promotes social inclusion of the poor and vulnerable by empowering people and making institutions accessible and accountable to citizens. This may include providing access to basic education and health care, promoting gender equality, or protecting human rights, among other aspects of inclusive development.



UN SUSTAINABLE DEVELOPMENT GOALS INFOGRAPHICS



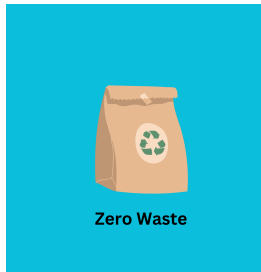
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## SUSTAINABILITY ICONS

Sustainability icons are visual symbols designed to communicate information regarding the environmental consequences of products, services, or actions. They serve as aids to people to make informed decisions that align with Upper Providence Township's sustainability principles and values.



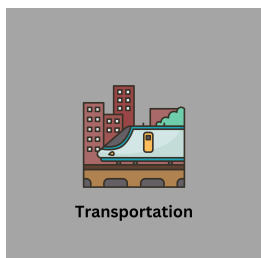
### **Zero Waste**

*An approach to reusing, recycling, and preserving. The entire life cycle of products, processes, and systems is considered.*



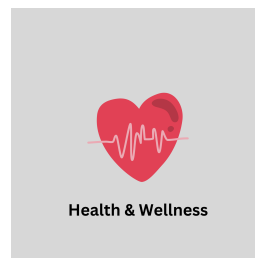
### **Climate Resilience**

*The ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions.*



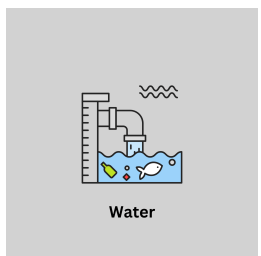
### **Transportation**

*An approach to low- and zero-emission, affordable, energy-efficient modes of transport, including electric and alternative-fuel vehicles..*



### **Health & Wellness**

*An approach to improving individual well-being in correlation with improving the well-being of other members of society and the natural environment.*



### **Water**

*An approach to efficiently providing safe, reliable, and easily accessible water as well as reliable sanitation and waterways protected from pollution.*



### **Open Space**

*An approach to preserving and increasing ecosystem productivity, improving wildlife habitats, and making greenspace more easily accessible.*



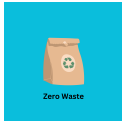
## TIMELINE OF IDENTIFIED PROJECTS

The identified projects laid out in this roadmap are intended to be implemented in the short-, medium-, or long-term (0-3 years, 4-6 years, or more than 7 years).

**Note:** The implementation pathway for each project can be adapted to lower or higher levels of effort as technologies, costs, and the township's policy and political context change.

PROJECT	SHORT-TERM (0-2 YEARS)	MEDIUM-TERM (3-6 YEARS)	LONG TERM (7+ YEARS)
Single-use Plastics Ordinance			
Low Impact Development (LID)			
Hard-to-recycle/Hazardous Waste			
Composting			
Home-Grown National Park Program			
Zoning Review/Survey of Township Land			
Installation of Charging Stations for EVs			
Retrofitting Lights (LED)			
Kudzu Vine Control			
Improve Sidewalk Infrastructure			
Stormwater Management			
Generating Inventory of Existing Dam/Hydro			
Implementing Vision Zero Initiatives & Strategic Transportation Planning			
Electrification of Road Vehicles (Police, Buses)			
Creation of existing Dam/Hydro Inventory			
Implementation of Rain Gardens and Bioretention			
More Public Green Space/Community Gardens			
Making Parks & Waterways more Accessible			
Workshops and Education on Sustainability			

## Single-Use Plastics Ordinance



### **Description:**

Single-use plastic is disposable plastic that ends up on landfill sites. Some common examples are plastic bags, polystyrene food containers, and plastic utensils/straws<sup>1</sup>. Plastic doesn't degrade in the environment like an apple or a piece of paper, instead, it breaks into smaller and smaller pieces called microplastics. Microplastics are severe suffocation and starvation hazards to wildlife and have been found in our air, waterways, food, and bodies. In addition, it takes many years for a plastic bag to break down.

On average, a plastic shopping bag is used for just 12 minutes. Americans use more than 100 billion plastic bags each year, more than 300 bags per person per year.<sup>2</sup> There are approximately 10,764 people who live in Upper Providence Township (Census.gov). When multiplied by 300, residents in this community use about 3.229,200 plastic bags a year.



Outside of Wawa



Plastic bag in the Ridley Creek



Dog's poop bag in Scott Park

### **Benefits of a Single-Use Plastics Ordinance**

- Reduction of single-use plastic waste destined for landfills.
- Reduction of single-use plastic waste in our environment (waterways and parks) to protect our wildlife.
- Improvement of the environmental quality and cleanliness of our township.
- Decrease demand for single-use plastic production, resulting in less greenhouse gas emissions.

### **Objectives**

- Make a recommendation to the UPT Council to adopt a single-use plastics ordinance.
- Make a recommendation to the UPT Council to adopt a resolution to direct the State of Pennsylvania to ban single-use plastic.
- Provide shopping bags to Upper Providence Township Residents.
- Provide resources to UPT businesses concerning single-use plastic alternatives, including a vendor list.
- Educate people on ways to reduce the consumption of plastic.

<sup>1</sup> Natural Resources Defence Council. Retrieved July 7, 2023, from: <https://www.nrdc.org/stories/single-use-plastics-101>

<sup>2</sup> Top Ten Facts about Plastic Bags in our Oceans, from: [https://environmentamerica.org/massachusetts/wp-content/uploads/2013/04/Bag-Ban-Fact-Sheet-\\_0.pdf](https://environmentamerica.org/massachusetts/wp-content/uploads/2013/04/Bag-Ban-Fact-Sheet-_0.pdf)



## Retrofitting the Township's Street and Traffic Lights with LEDs



### **Description:**

Public lighting is an important part of Upper Providence Township's public safety as it deters crime and traffic accidents and enhances city aesthetics by accenting important buildings and landmarks. According to the International Energy Agency, lighting accounts for about 19% of global electricity consumption and 5% of greenhouse gas emissions, making it a significant contributor to carbon emissions. In addition, traditional street lights require regular maintenance and often involve replacing lamps and other components, which can create waste and require the use of additional energy and resources.<sup>3</sup>



### **Benefits**

The benefits of upgrading conventional, high-pressure sodium (HPS), metal halide (MH), and mercury vapor (MV) streetlights with LED technology are numerous.

- LED streetlights consume 40 to 60 percent less electricity.
- They generate fewer emissions than their conventional equivalents and help address climate change by cutting energy waste.
- They have longer lifetimes — over 50,000 hours, compared to HPS (32,000 hours) and MV lighting (12,000 hours), and can last 20-25 years.
- They have better color rendering which allows the human eye to see more of the colors it sees during daylight.<sup>4</sup>

### **Objectives**

- Saving considerable energy and lowering the maintenance costs for streetlights in Upper Providence Township.
- Conducting an inventory of all the streetlights within Upper Providence Township and determining the required quantity of LED lights.
- Investigating potential LED streetlight suppliers, as well as selecting the suitable Outdoor Lamp Controller (OLC), its sensor, and a web-based Central Management System (CMS) for outdoor lighting control.<sup>5</sup>

<sup>3</sup> Office of Energy Efficiency and Renewable Energy, *Considering LEDs for Street and Area Lighting*, <https://www.energy.gov/eere/ssl/considering-leds-street-and-area-lighting>

<sup>4</sup> World Bank, *Proven delivery models for LED public lighting*, <https://documents1.worldbank.org/curated/en/869131477561325418/pdf/Proven-delivery-models-for-LED-public-lighting-synthesis-of-si-x-case-studies.pdf> p. 3.

<sup>5</sup> What is a smart streetlight? <https://twilight.com/what-is-a-smart-street-light/#:~:text=A%20smart%20street%20light%20automatically.and%20lowering%20the%20maintenance%20costs>.

### **Cost and Funding Analysis**

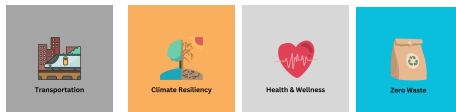
An article published in The Radnor Patch on 11/21/2023 describes a contract awarded by Radnor Township, Delaware County, for retrofitting the township's remaining traditional incandescent streetlights to LED lights for a total cost \$789,000. The contract includes retrofitting 1,100 standard streetlights and 183 colonial-style lights for an average cost of \$614.96 per light.<sup>6</sup> Radnor Township participated in the Delaware Valley Regional Streetlight Procurement Program<sup>7</sup> and was awarded a grant of \$87,250, potentially providing funding for 11% of the project. This initiative was facilitated by the Delaware Valley Planning Commission.

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<sup>6</sup> Patch.com, *Radnor Moves Ahead With LED Street Lighting Proposal*, <https://patch.com/pennsylvania/radnor/radnor-moves-ahead-led-street-lighting-proposal>

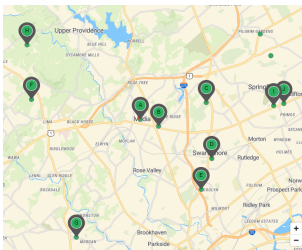
<sup>7</sup> Delaware Valley Regional Planning Commission (DVRPC), *Regional Streetlight Procurement Program*, <https://www.dvrpc.org/rslpp/>

## Installation of Charging Stations for Electric Vehicles (EVs)

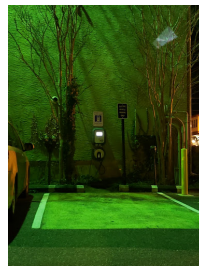


### Description:

In 2019, PA Governor Tom Wolf issued Executive Order 2019-01<sup>8</sup>, which set goals to *replace 25% of the state passenger car fleet with battery electric and plug-in hybrid cars by 2025*<sup>9</sup> in addition to reducing energy consumption within state agencies. Although Upper Providence Township and surrounding municipalities offer several charging stations within a several-mile radius<sup>10</sup>, one of the primary barriers to consumer behavior related to the adoption and use of Electric Vehicles includes decision-making barriers (i.e., lack of confidence in the technology's range or availability of charging stations)<sup>11</sup>. Creating an educational campaign to expand the residents' knowledge of available charging stations and continuing to develop and expand the current infrastructure of charging stations for Electric Vehicles through connecting with local and regional companies, organizations, and jurisdictions who also support the expansion of electric vehicle use will support UPTs and PA's efforts to reach Governor Wolf's goals.



Map of charging stations near 19063



Blink charging station in Media Borough

### Benefits

- Removal of one of the barriers to the widespread adoption of electric vehicles.
- Charging of EVs becomes more convenient.<sup>12</sup>
- Reduction of the amount of gasoline consumed by Plug-in-Hybrid-Electric Vehicles (PHEVs).

### Objectives

- Expand residents' awareness of existing charging stations available in close proximity to UPT, through targeted educational campaigns.
- Ensure that public charging stations are placed in strategic locations that maximize usage and facilitate travel.
- Develop partnerships with EV charging companies, local stakeholder groups, and other public municipalities to expand charging station infrastructure within UPT and surrounding communities.
- Seek available grant funding, such as the Alternative Fuels Incentive Grant Program<sup>13</sup> through the Department of Environmental Protection, to support the installation of charging stations within UPT.

<sup>8</sup> Executive Order 2019-01. <https://www.oa.pa.gov/Policies/eo/Documents/2019-01.pdf>

<sup>9</sup> 2020 State Energy Efficiency Scorecard. [https://www.aceee.org/sites/default/files/pdfs/ACEEE\\_ScrSht20\\_Pennsylvania.pdf](https://www.aceee.org/sites/default/files/pdfs/ACEEE_ScrSht20_Pennsylvania.pdf)

<sup>10</sup> Alternative Fuels Data Center. *Electric Vehicle Charging Station Locations for zip code: 19063.*

[https://afdc.energy.gov/fuels/electricity\\_locations.html#/find/nearest?fuel=ELEC&location=19063&page=1](https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC&location=19063&page=1)

<sup>11</sup> Pennsylvania Electric Vehicle Roadmap (2019).

<https://files.dep.state.pa.us/Energy/OfficeofPollutionPrevention/StateEnergyProgram/PAEVRoadmap.pdf>

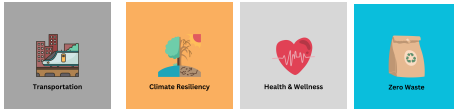
<sup>12</sup> U.S. Department of Energy. *Charging Electric Vehicles in Public.* [https://afdc.energy.gov/fuels/electricity\\_charging\\_public.html](https://afdc.energy.gov/fuels/electricity_charging_public.html)

<sup>13</sup> Department of Environmental Protection. *Alternative Fuels Incentive Grants.*

<https://www.dep.pa.gov/Citizens/GrantsLoansRebates/Alternative-Fuels-Incentive-Grant/Pages/default.aspx>



## Electrification of Road Vehicles (Police/Municipal Cars, School Buses...)



### **Description:**

Electric Vehicles (EVs) are an emerging resource with significant value in reducing carbon emissions and air pollution, resulting in improved air quality, which will lead to improved population health and enhanced quality of life. In addition, the transition to EVs will provide new and innovative economic opportunities, and reduce the community's reliance on oil imports. Although the market for EVs has primarily used a direct-to-consumer model, state-wide government entities have taken notice of the potential benefits of the use of EVs and are actively working to situate Pennsylvania to be part of this growing market<sup>14</sup>. Some townships in our neighboring counties have already begun the transition to hybrid vehicles within their patrol units.<sup>15 16</sup>



A woman charges an EV in Delaware County<sup>17</sup>



Picture courtesy of Tacoma Police Department

### **Benefits**

- Reduction of greenhouse gas and air pollution, leading to improved health, fewer respiratory conditions, and higher quality of life.
- Consumer Cost Savings via Alternative Fuel Vehicle Rebates through PA's Department of Environmental Protection & other grants to support the building of infrastructure.<sup>18</sup>
- Potential for new economic opportunities.
- Benefits to the electricity grid.
- Reduction in our reliance on imported petroleum.

### **Objectives**

- Make a recommendation to the UPT council to transition administrative vehicles owned by the township to hybrid and/or electric vehicles (see [Pennsylvania FAST Act Corridor Infrastructure Grant](#)).
- Develop an education awareness plan to educate the community about available rebate programs for purchasing resident/consumer EVs (see [Alternative Fuel Vehicle Rebates for Consumers](#)).
- Engage with local school district leaders to support education on the use of electric vehicles.

<sup>14</sup> Department of Environmental Protection. *Electric Vehicles in PA*. Retrieved July 10, 2023 from: <https://www.dep.pa.gov/Business/Energy/OfficeofPollutionPrevention/ElectricVehicles/Pages/default.aspx>

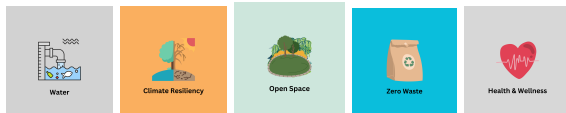
<sup>15</sup> Lang, Marlene. *West Vincent Township Leads With Hybrid Police Vehicle*. Retrieved July 31, 2023 from: <https://patch.com/pennsylvania/westchester/west-vincent-township-leads-hybrid-police-vehicle>

<sup>16</sup> Bjorkgren, D. (2022). *Delaware County Welcomes Electric Vehicles Head On*. Retrieved 8/1/2023 from: <https://delco.today/2022/07/delaware-county-welcomes-electric-vehicles-head-on/>

<sup>17</sup> CBSNews (2022). *Delaware County to Add More Electric Vehicles to Its Government Fleet*. Retrieved 8/1/2023 from: <https://www.cbsnews.com/philadelphia/news/delaware-county-electric-cars-pennsylvania-department-environmental-protection/>

<sup>18</sup> PA Department of Environmental Protection. Retrieved July 10, 2023 from: <https://files.dep.state.pa.us/Energy/OfficeofPollutionPrevention/StateEnergyProgram/PAEVRoadmap.pdf>

## Low Impact Development (LID)



### **Description:**

Low Impact Development (LID), is a type of Stormwater Management facility (*described on page 17*) designed to mimic, or even work with, nature to treat rainfall where it lands. Conventional stormwater management practices rely on gutters, drains, and pipes, to collect rainwater and transport it to a single area, usually far from the street or neighborhood where the rain fell. LID practices approach stormwater runoff as a resource rather than a waste product; the stormwater is dispersed and directed back into the ground at the source.

LIDs create a patchwork approach to rainwater treatment to reduce the impact of development, preserve or restore natural landscapes, minimize impervious surfaces, or otherwise reduce the volume and velocity of stormwater runoff<sup>19</sup>. This patchwork approach is particularly suited to urban and suburban areas because LIDs include a variety of low-cost elements with small footprints<sup>20</sup> and minimal infrastructure demands. Typical LIDs include rain barrels, permeable paving, green roofs, and rain gardens (*described on page 13*).



Example of permeable pavement



Rain barrel at a UPT residence.

### **Benefits**

- Improved water quality through capturing and filtering pollutants.
- Reduced risk of flooding and associated damages.
- Protection for natural riparian systems and habitats, such as streams<sup>21</sup>.
- Increased neighborhood aesthetics.

### **Objectives**

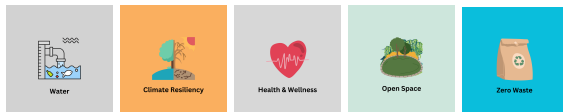
- Make a recommendation to the UPT Council to adopt a stormwater management ordinance or incentive program.
- Implement LIDs on UPT properties and parks as demonstration and educational resources for residents.
- Establish a process for issuing a Request for Proposal (RFP) to engage professionals (civil engineers, landscape architects, contractors, etc.) to aid in the design and installation of LIDs.
- Monitor successes and failures to inform future implementation and maintenance of stormwater management facilities.

<sup>19</sup> United States Environmental Protection Agency. *Urban Runoff: Low Impact Development*. <https://www.epa.gov/nps/urban-runoff-low-impact-development#:~:text=The%20term%20low%20impact%20development,quality%20and%20associated%20aquatic%20habitat>

<sup>20</sup> Small Footprint = the ecological impact of human activities.

<sup>21</sup> United States Environmental Protection Agency. *Benefits of Low Impact Development*. <https://www.epa.gov/sites/default/files/2015-09/documents/bbfs1benefits.pdf>

## Implementation of Rain Gardens and Bioretention



### **Description:**

Rain gardens and bioretention facilities are types of Low Impact Development (LID) systems (*described on page 12*). Specifically, rain gardens are areas designed to catch and absorb rainwater as it runs off an impervious surface such as a road, sidewalk, or roof. Stormwater runoff, particularly from roads, parking lots, or other vehicle-oriented areas, can carry pollutants from exhausts or dripping fluid. Rain gardens and bioretention facilities aim to catch the first one to two inches of rainfall or “first flush” that picks up the majority of these pollutants. Without rain gardens, the runoff can carry the pollutants to streams or other bodies of water, impacting fish, wildlife habitats, and even our drinking water. Rain gardens are deposited into the ground to collect water and filter it by allowing the water to infiltrate through a mulch layer, the soil, and the roots of plants. Stormwater treatment facilities of this type are preferred in urban and suburban areas because they require a small amount of space to deliver a significant impact<sup>22</sup>.



Rain garden in a residential front yard.



Rain garden with educational signage at the Media Municipal Center.



Low spot for potential rain garden at Houtman Park, 21 W. Lincoln Street.

### **Benefits<sup>23</sup>**

- Decrease in runoff volume.
- Reduction of the demands placed on infrastructure such as storm drains, gutters, and sewer systems.
- Filter of pollutants by infiltration through soil particles and uptake by plant roots.
- Prevention of soil erosion from excessive runoff volume or velocity.
- Increase in aesthetics and creation of habitats that meet all the environmental conditions an organism needs to survive.

### **Objectives**

- Make a recommendation to the UPT Council to adopt a stormwater management ordinance or incentive program.
- Develop a strategy for implementing rain gardens and bioretention areas on public, commercial, and privately owned properties.
- Implement rain gardens on UPT properties as demonstration and educational resources for residents.
- Monitor successes and failures to inform future implementation and maintenance of stormwater management facilities.

<sup>22</sup> Environmental Protection Agency. *Stormwater Best Management Practices, Bioretention (Rain Gardens)*.  
<https://www.epa.gov/system/files/documents/2021-11/bmp-bioretention-rain-gardens.pdf>

<sup>23</sup> Pennsylvania Department of Environmental Protection. *Stormwater Best Management Practices Manual, Chapter 6*.  
[https://www.stormwaterpa.org/assets/media/BMP\\_manual/chapter\\_6/Chapter\\_6-4-5.pdf](https://www.stormwaterpa.org/assets/media/BMP_manual/chapter_6/Chapter_6-4-5.pdf)



## Generate Inventory of Existing Dam/Hydro



### **Description:**

Hydropower accounts for 28.7% of total U.S. renewable energy output and 6.2% of total U.S. electricity generation.<sup>24</sup> Pennsylvania is a state rich in hydropower potential, with over 85,000 miles of rivers and streams, more than any other state in the Continental U.S., and over 3,400 existing dams.<sup>25</sup> Pennsylvania currently has over 2,000 megawatts of hydroelectric capacity spanning over 17 large-scale hydroelectric power plants.<sup>26</sup> In addition to these large hydroelectric plants, small-scale hydropower projects are being recognized as a vast potential source of clean, renewable energy. Pennsylvania, along with at least eight other states, has developed policies and programs to support the development of small-scale hydropower, including potential grant funding from the Pennsylvania Energy Development Authority.<sup>27</sup> These incentives are designed to tap into the vast number of existing Pennsylvania non-powered dams (NPDs). A 2020 report by the National Hydropower Association ranks Pennsylvania 6th in the nation in untapped hydropower potential, with an estimated untapped capacity of over 520MW in the Pittsburgh region alone, equating to the potential reduction of over 2.1 billion pounds of CO2 equivalent.<sup>28</sup>

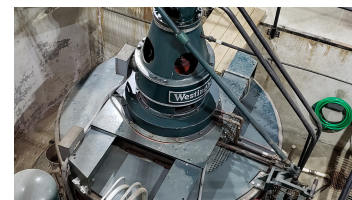
Upper Providence Township has three(3) main bodies of water:

1. Springton Lake Reservoir
2. Ridley Creek
3. Crum Creek.

Of those bodies of water, at least two larger-scale dams currently exist.

1. Springton Reservoir Dam along Rt. 252
2. Ridley Creek Dam along Ridley Creek State Park Trail near Barren Road

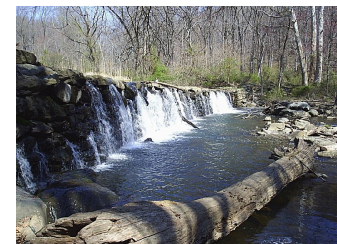
Additional smaller dams may exist. An inventory would need to be taken along with an ownership survey to determine the feasibility of the Township taking ownership and developing the hydroelectric resource. As a case study, the Simon Pearce flagship glassblowing studio in Quechee, VT, uses a small-scale hydroelectric plant to power its operations.



Simon Pearce Small Scale  
Hydroelectric Plant,  
Quechee, Vt.  
Photo Courtesy of Simon Pearce [Website](#)

### **Benefits**

- Harness clean, renewable energy from existing untapped water infrastructure.
- Potential source of Township revenue through energy sales and renewable credits.
- Possibility of Grant funding for small-scale hydro projects.



Ridley Creek State Park

### **Objectives**

- Evaluate the current inventory of non-powered dam infrastructure and hydroelectric development potential.

<sup>24</sup> United States Department of Energy  
<https://www.energy.gov/eere/water/hydropower-basics#:~:text=Hydropower%2C%20or%20hydroelectric%20power%2C%20is.of%20total%20U.S.%20electricity%20generation>

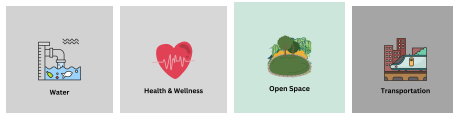
<sup>25</sup> Pennsylvania Department of Environmental Protection

<sup>26</sup> Pennsylvania Department of Environmental Protection, *PA Energy Resources Report*

<sup>27</sup> 2015 Department of Energy Report. *Small Hydropower in the United States* ORNL/TM-2015/326

<sup>28</sup> Minh (Quinn) Dang. *Unlocking Hydropower Potential of Pennsylvania*, National Hydropower Association

## Making Parks and Waterways More Accessible



### **Description:**

Access to open, natural areas is critical. Countless studies link health, environmental, social, and economic benefits with physical and visual access to parks, waterways, and other open spaces. Accessibility in reference to parks and outdoor community spaces has two meanings:

1. Equal means of access for those of all abilities, governed by the Americans with Disabilities Act (ADA).
2. Social equity regardless of age, race, or income.

The ADA Standards, published by the Department of Justice, set minimum requirements for newly designed and constructed buildings and public landscapes; often referred to as “Universal Design.” The Standards provide minimum acceptable requirements for walking surfaces, stairs, handrails, and more to remove barriers and ensure facilities are readily accessible and usable by individuals of all abilities<sup>29</sup>.

Historically, parks in neighborhoods comprised of minority and economically disadvantaged populations are typically half as large and five times more crowded than their counterparts<sup>30</sup>. Equity in park programming and design requires a multifaceted approach to correct and prevent existing disparities in the future.

Parks should be designed to be a central feature of the neighborhood and provide helpful community amenities with facilities and programming to fit the specific needs of the community. Establishing a network of trails throughout our community, within utility easements, and along waterways provides increased connectivity between individuals and the public amenities they desire.

Upper Providence is home to the following parks and recreation spaces:

- Berman Playground
- Cherry Street Park
- Glen Providence Park
- Houtman Park
- Louis W. Scott Memorial Park
- Ray Roche Park
- Weldon Street Tot Lot



*Pictures courtesy of Mareile Watson*

<sup>29</sup> U.S. Department of Justice Civil Rights Division. 2010 ADA Standards for Accessible Design. <https://www.ada.gov/law-and-regs/design-standards/2010-stds/>

<sup>30</sup> Housing Matters: an Urban INstitute Initiative. *Not All Parks Are Created Equal: How Communities Can Ensure Parks Are Accessible for All Residents.* <https://housingmatters.urban.org/feature/not-all-parks-are-created-equal-how-communities-can-ensure-parks-are-accessible-all>

## **Benefits**

- Equity for all residents regardless of age, income, or ability.
- Improved health and wellness for individuals and the community.
- Decreased reliance on cars and need for extensive parking lots.
- Improved community aesthetics.

## **Objectives**

- Engage a professional to complete a comprehensive parks, recreation, and open space plan.
- Conduct extensive community outreach to understand how our parks are currently used and accessed.
- Assess programming, park use, and maintenance needs and capabilities.
- Review Rights of Way (ROW) and utility or access easements to increase greenways and pedestrian-prioritized paths to parks and waterways.
- Identify and implement opportunities to provide ADA-accessible routes to and within parks, pedestrian and cyclist connections, and improved access via public transportation.

## Stormwater Management



### **Description:**

Stormwater Management (SWM) is the effort to reduce, control, and use stormwater runoff from impervious surfaces. In Pennsylvania, stormwater requirements were issued through the federal Clean Water Act and are administered under the Pennsylvania Department of Environmental Protection's Municipal Separate Storm Sewer (MS4) Program. SWM includes planning for runoff, maintaining stormwater systems, and regulating the collection, storage, and movement of stormwater. Stormwater management also considers drainage in the design of housing developments.

Runoff is defined as rain or melting snow that flows from rooftops, lawns, streets, parking lots, or other impervious surfaces that do not allow water to soak into the soil below<sup>31</sup>. Particularly in urban and suburban areas, runoff contains debris, chemicals, and pollutants, which are then brought to streams, wetlands, and other bodies of water. Conventional SWM systems utilize an extensive infrastructure of gutters, drains, and pipes to capture runoff and transport it to water treatment plants or nearby natural bodies of water, which may cause flooding, soil erosion, sedimentation, sewer overflows, and damage to homes and infrastructure<sup>32</sup>.

The more desirable practices are based on Green Stormwater Infrastructure (GSI) and include bioretention, micro-bioretention, bioswales, Low Impact Developments (*refer to page 12*), retention basins, rain gardens (*refer to page 13*), wetland, and rainwater harvesting, such as rain barrels.

SWM captures rainwater to:

- Retain the water for future uses, such as irrigation or flushing toilets.
- Decrease the volume and velocity of the runoff to prevent soil erosion, flooding, and overflow of streams and rivers.
- Infiltrate water into the soil, where it supports plant growth and helps recharge the groundwater supply.
- Filter pollutants and debris from runoff to ensure clean drinking water and protect aquatic habitats.



Heritage Park in Media Borough.

### **Benefits**

- Fewer demands are placed on infrastructure such as storm drains, gutters, and sewer systems.
- Improvement of water quality due to the removal of pollutants from runoff.
- Decrease in potential floods and better protection of residents, properties, and investments.
- Enhance aesthetics and provide habitat.

### **Objectives**

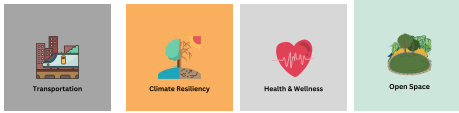
- Make a recommendation to the UPT Council to adopt a SWM ordinance and/or incentive program to:
  - Minimize lawns and impervious surfaces.
  - Engage businesses and homeowners in the treatment of stormwater runoff.
  - Reduce the amount of runoff and potential pollutants reaching our waterways.
- Implement SWM on UPT properties as demonstration and educational resources for residents.

<sup>31</sup> Wisconsin Department of Natural Resources. *What is Storm Water Runoff?*  
[https://dnr.wisconsin.gov/topic/Stormwater/learn\\_more/whatis.html#:~:text=Storm%20water%20runoff%20is%20in,to%20soak%20into%20the%20ground](https://dnr.wisconsin.gov/topic/Stormwater/learn_more/whatis.html#:~:text=Storm%20water%20runoff%20is%20in,to%20soak%20into%20the%20ground)

<sup>32</sup> Philadelphia Water Department. *Stormwater*. <https://water.phila.gov/stormwater/>



## Improve Sidewalk Infrastructure (*Rose Tree Park, Schools, Business District*)



### **Description:**

Annually, around 4,500 pedestrians are killed in traffic crashes with motor vehicles in the United States. Pedestrians killed while “walking along the roadway” account for almost 8 percent of these deaths. Many of these tragedies are preventable. Providing walkways separated from the travel lanes could help to prevent up to 88 percent of these “walking along roadway crashes.”<sup>33</sup>

### **Benefits:**

- Sidewalks can be good for the environment! When sidewalks are present, pedestrians feel safer leaving their vehicles at home and walking to their destination, which results in less air pollution and traffic.
- For people who choose to walk places, there are several health benefits including lower rates of cardiovascular disease, obesity, and other issues. Numerous studies show that children who walk to school tend to have better concentration.
- All people — regardless of their disability, age, income, or other constraints — can get from one place to another independently, and without challenges.<sup>34</sup>

### **Objectives:**

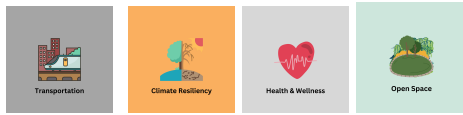
Improve the sidewalk infrastructure in the following UPT areas:

- Implement sidewalks leading to Rose Tree Park
- Implement sidewalks around Rose Tree Elementary School
- Implement sidewalks around Rt. 252/Old State Road
- Make sidewalks ADA-compliant (e.g., wheelchair accesses)

<sup>33</sup> Safety Benefits of Walkways, Sidewalks, and Paved Shoulders  
[https://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/walkways\\_brochure/walkways\\_brochure.pdf](https://safety.fhwa.dot.gov/ped_bike/tools_solve/walkways_brochure/walkways_brochure.pdf)

<sup>34</sup> National Library of Medicine, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8666347/>

## Implementation of Designated Protected Bike Lanes



### **Description:**

Protected bike lanes create a network of routes exclusively for bicycles by implementing physical barriers to separate pedestrian paths and vehicle roadways. Designated protected bike lanes are easy to implement because the materials, construction, and aesthetics are easily modified to fit nearly any budget, existing infrastructure and adjacent property uses. Asphalt, which is readily available and affordable, is the ideal surface material. Typical barriers can range from curbs, reinforced planters, bollards, or the bike lane between roadside parking and the sidewalk. A designated bicycle network serves those looking to travel a mile or two to a store, park, or restaurant and long-distance riders<sup>35</sup>.

### **Benefits**

- Increased access to parks, businesses, and residential neighborhoods through UPT.
- Environmental mode of transportation within UPT and our neighbors.
- Easily implemented parallel to or integrated into existing roadways.

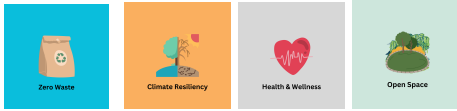
### **Objectives**

- Engage a Transportation Planning firm or professional to work with UPT Highway Department and Planning Commission to:
  - Inventory existing bike infrastructure.
  - Study potential roads, trails, and routes for designated bike lanes.
  - Investigate the impacts of reducing travel lanes or parking lanes to accommodate protected bike lanes.
  - Develop a master plan and phasing approach to implementation.

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<sup>35</sup> PeopleForBikes. *Protected Bike Lanes 101*. <https://www.peopleforbikes.org/reports/protected-bikes-lanes-101>

## Composting Programs



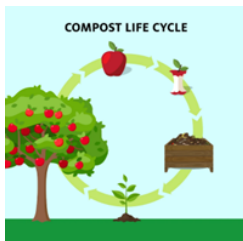
### **Description:**

Composting is the natural process of converting organic matter, like food scraps and yard waste, into fertilizer. Composting is a form of recycling.

Much like recycling glass or paper, composting involves separating compostable matter from the overall waste stream. This matter decays and decomposes over time into nutrient-rich valuable fertilizer in gardening.

Composting can be done at home simply with limited knowledge, effort, and expense. It is also offered as a commercial service with curbside collection and access to finished compost. Some municipalities, including Media Borough, run residential curbside composting programs.

EPA estimates that 24% of solid waste is food scraps.<sup>36</sup> In Upper Providence, the solid waste in 2021 was 3,960.56 tons. That's roughly 950 tons of food waste annually. An average garbage truck can hold about 20 tons, which means that about 47 truckloads of food were wasted and went into landfills/incinerators.



### **Benefits**

- Reduction of solid waste disposal costs. Upper Providence currently pays \$83 per ton to dispose of solid waste, and this fee is on the rise, up from \$52 per ton in 2019. Any amount of waste diverted from this waste stream reduces this expense.
- Reduction of the environmental impact of solid waste disposal. Upper Providence's solid waste is incinerated, with some remaining ash spread in landfills. Diverting solid waste from this process means lower emissions from incineration and less contribution to landfills.
- Production of high-quality, natural fertilizer. Composting produces a natural resource that reduces the need for chemical fertilizers, promotes higher yields, and enhances water retention.

### **Objectives**

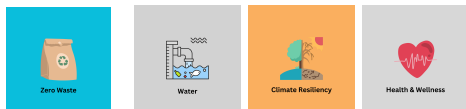
- Develop a composting strategy.
  - Establish program alternatives—at home, commercial (subsidized), municipal, etc.
  - Assess community interest (participation and household size)
- Develop program designs for each program alternative.
- Present alternatives to the Council for selection.
- Implement the selected alternative.
  - Assess selected alternative against success criteria
  - Adjust accordingly

<sup>36</sup> U.S. Food and Drug Administration. *Food Loss and Waste*.

<https://www.fda.gov/food/consumers/food-loss-and-waste#:~:text=EPA%20estimates%20that%20more%20food,percent%20of%20municipal%20solid%20waste.>

## Hard-To-Recycle/Hazardous Waste Disposal

Hazardous waste, Textile, Electronics, Sharps (Syringes, needles, and lancets), Expired Medications



### Description:

Hazardous waste including toxic and flammable items, batteries, herbicides/pesticides, medical waste, and chemicals can present risks to both the environment and human health through improper disposal. Textile waste is an increasingly prevalent problem across the world as consumer trends encourage frequent purchase and discarding of new clothing, footwear, and other textiles. In 2018, the EPA estimated that textiles comprised 7.7% of all municipal solid waste in landfills and that the recycling rate for all textiles was only 14.7%<sup>37</sup> In addition, hazardous and hard-to-recycle items are often placed in municipal recycling bins, resulting in contamination of otherwise recyclable materials. The EPA estimates that as much as 25% of recycling is contaminated and ends up in a landfill instead of being recycled.<sup>38</sup>

Delaware County currently hosts 4 annual Household Hazardous Waste collection events, including one in Rose Tree Park. UPT also has a partnership with Retrievr.com to collect old clothing and electronics from local households. The township website contains information on recycling and collection sites for other materials, including automotive products, batteries, home healthcare waste, paint, and other hazardous materials.<sup>39</sup> However, one of the biggest hurdles to managing hard-to-recycle and hazardous waste is that it requires significant time and energy from residents to research proper disposal methods and coordinate pick-up or drop-off, often at several sites for various items. Coordinated efforts by the township and county can help educate residents, facilitate more straightforward disposal, and increase the usage of proper disposal methodologies.

**2023**  
**Delaware County (Revised Schedule)**  
**Household Hazardous Waste (HHW) Collection Events**

**TICKET MUST BE PRESENT TO ACCESS EVENT** \*Registration required for all events.  
Register at: [delawarecountypa.com/HHW](https://delawarecountypa.com/HHW) or scan the QR code  
\*Registration QR Code will be activated 6 weeks prior to each event

*Think Globally, Act Locally!* If improperly discarded, household products containing toxic chemicals can be a threat to people, pets and the environment. Never dispose of hazardous materials in the trash as they may harm your sanitation workers or result in a collection vehicle fire. It is also unsafe to pour HHW down a sink or storm drain as it will end up polluting our drinking water.

**ONLY Household Hazardous Waste will be accepted**  
**Electronics Waste & Latex Paint will NOT be accepted.**

- Sat., April 22<sup>nd</sup> Emergency Services Training Center  
1600 Calcon Hook Rd., Sharon Hill (Dusky Top) 19079
- Sat., June 3<sup>rd</sup> Rose Tree Park  
1671 N. Providence Rd., Media PA 19063  
\*Please note this is a new date for this location
- Sat., Sept 9<sup>th</sup> Emergency Services Training Center  
1600 Calcon Hook Rd., Sharon Hill (Dusky Top) 19079
- Sat., Oct., 14<sup>th</sup> Upper Chichester Municipal Bldg.  
8500 Furey Road., Upper Chichester, PA 19061

**ALL EVENTS BY APPOINTMENT ONLY rain or shine -REGISTRATION REQUIRED**

This Program is offered as a community service to the residents of Delaware County and is **not open** to businesses, institutions or industry.

Sponsored by:  
County of Delaware  
Delaware County Solid Waste Authority  
Covanta Delaware Valley, L.P.  
Pennsylvania Department of Environmental Protection

### Recycle Unwanted Clothing & Electronics Right from Your Door

Powered by **Retrievr**, Upper Providence Township brings you a convenient service that collects your unwanted clothing and electronics right from your doorstep.



It's easy to get started. Simply visit [Retrievr.com](https://retrievr.com) or call 757-703-3824.

- 1 Tell us what you're recycling
  - 2 Schedule a day for pickup
  - 3 Drop off all items
  - 4 Leave them outside for pickup
- There is a \$12.50 doorstep fee for all clothing and small electronics. The doorstep fee is waived if you are paying other fees for TVs, air conditioners, mini refrigerators, microwaves, or dishwashers.

See the list of items **retrievr** collects and FAQs at [retrievr.com](https://retrievr.com)



### Benefits

- Increased awareness and convenience of disposal options for hazardous and hard-to-recycle waste.
- Reduction of hazardous waste disposal in landfills and waterways, decreasing contamination in landfills, soil, and water processing facilities, as well as risks to human health.
- Decreased contamination of recycling waste.

<sup>37</sup> Environmental Protection Agency. *Facts and Figures about Materials, Waste and Recycling*.

<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/textiles-material-specific-data>

<sup>38</sup> Environmental Protection Agency. *Facts and Figures about Materials, Waste and Recycling*.

<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/textiles-material-specific-data>

<sup>39</sup> Upper Providence Township. <https://www.upperprovidence.org/222/Trash-Recycling>



## **Objectives**

- Increase awareness of the township's existing resources and disposal opportunities.
- Design & implement awareness campaigns to increase participation in hazardous waste disposal events and usage of Retrievr.com textile pickup.
- Design & implement educational campaigns on proper disposal of hazardous and hard-to-recycle materials.  
Campaigns may include:
  - Emails from the UPT office/inclusion in regular newsletters
  - Tables at local UPT (ex. Rose Tree Park) and Media Borough events with educational materials & flyers
  - Articles in local newspapers & publications
  - Educational materials available at local schools
  - Educational videos produced & hosted via township website and promoted on social media (could be sponsored by local businesses to defray costs)<sup>40</sup>
- Explore additional partnerships for low/no-cost recycling and/or collection of hazardous materials throughout the township. Examples include:
  - Clothing & textile collection bins hosted at local UPT businesses<sup>41</sup>
  - Partnerships with nonprofits and e-Steward recyclers that could retrieve hazardous and/or hard-to-recycle materials from a permanent drop-off location at the township<sup>42</sup>
  - Conduct a feasibility study for the creation of a center for toxic and hard-to-recycle materials within UPT and/or in collaboration with nearby municipalities<sup>43</sup>

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<sup>40</sup> Examples available via EPA website:

<https://www.epa.gov/transforming-waste-tool/examples-and-resources-transforming-waste-streams-communities-51-100#83>

<sup>41</sup> Helpsy <https://www.helpsy.co/take-action>

<sup>42</sup> Example available via EPA website

<https://www.epa.gov/transforming-waste-tool/examples-and-resources-transforming-waste-streams-communities-51-100#76>

<sup>43</sup> Examples of municipal and county centers available via EPA website

<https://www.epa.gov/transforming-waste-tool/examples-and-resources-transforming-waste-streams-communities-51-100#93>

## Kudzu Vine /Invasive Plants Control and Management



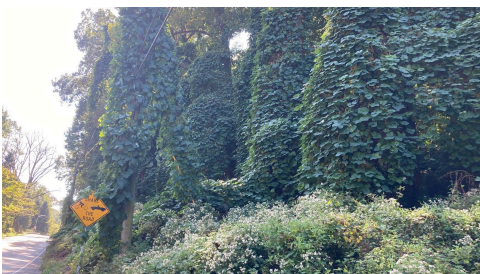
### **Description:**

Nicknamed “*the vine that ate the south*”, kudzu is a highly invasive creeping, climbing perennial vine that grows up to one foot per day. Native to Japan and China, it was widely planted in the southern US to control soil erosion and feed livestock. It has migrated to the northeast and is currently growing in various parts of Upper Providence. Kudzu is both a nuisance and an ecological threat, so effective control is critical. Kudzu smothers and uproots neighboring plants and trees, posing a risk to native species.<sup>44</sup>

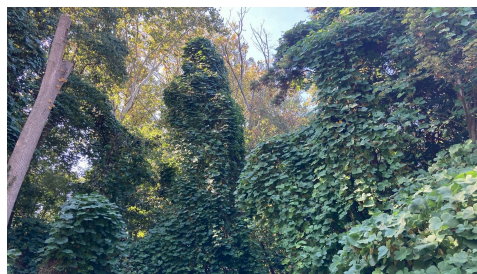
Newer, smaller kudzu patches can be controlled with persistent weeding, mowing, and grazing (goats will eat kudzu), which will weaken the plant. Larger growths require cutting back vines to the ground and careful treatment with the proper herbicides. The best way to deal with kudzu is to prevent its spread.

Kudzu prefers open, disturbed areas like roadsides, rights-of-way, forest edges, and old fields. In Pennsylvania, most of the sites are old homesteads or industrial sites that were planted with kudzu to prevent erosion.<sup>45</sup>

In Upper Providence Township, kudzu has been sited on State Road and has spread significantly, It is now also established up the hill approaching the intersection of State Road and Old State Road.



Kudzu on State Road, Media, PA



Pictures courtesy of Mareile Watson

### **Benefits of vigorous elimination:**

- By removing kudzu, native ecosystems will be preserved, which is beneficial for a healthy ecosystem.
- Large kudzu infestations are difficult and expensive to control and may limit the usefulness and, ultimately, the value of affected land. By removing kudzu, land utility, and value will be preserved.

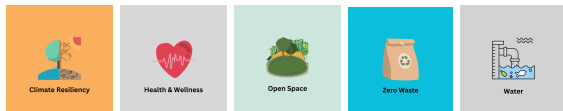
### **Objectives**

- Develop community resources
  - Provide information to help residents recognize kudzu infestations on their properties.
  - Provide guidance on methods for control and eradication.
  - Establish local expertise to provide residential support for identification and eradication.
- Address public infestations
  - Locate public infestations.
  - Establish means of controlling.

<sup>44</sup> Mississippi Forestry Commission, *Kudzu*, <https://www.mfc.ms.gov/forest-health/invasive-plants/kudzu/>

<sup>45</sup> Pennsylvania Department of Agriculture, *PA Noxious Weed Alert*, [https://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/NIPPP/Documents/Kudzu%20Noxious%20Weed%20Alert%202011.pdf](https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/NIPPP/Documents/Kudzu%20Noxious%20Weed%20Alert%202011.pdf)

## More Public Green Space/Community Gardens



### Description:

Green spaces are generally defined as land with natural vegetation (grass, trees, shrubs, etc.) that is open and accessible to the public, typically for free.

All three pillars of sustainability are present in green spaces.

1. Green spaces benefit the **environment** through
  - a. Providing habitat for wildlife with food, refuge, and places to raise young.
  - b. Creating a refuge for rare, threatened, or endangered plants and animals.
  - c. Enhancing biodiversity of both plants and animals.
  - d. Mitigating the effects of pollutants by reducing runoff, filtering air pollution, and offsetting the urban heat island effect (heat from the sun trapped metal, concrete, and other urban building materials).
2. **Economic** impacts delivered by green spaces include:
  - a. Increase property values for homeowners.
  - b. Increase pedestrian and vehicular traffic near and around businesses.
  - c. Provide space for fairs, festivals, or other
  - d. Generate revenue through sports league rental fees, admissions, and concession sales.
3. Green spaces are **socially** valuable by
  - a. Drawing people outdoors to connect with their neighbors.
  - b. Developing a sense of place and community pride.
  - c. Encouraging healthy behaviors such as increased physical activity.
  - d. Creating buffer zones between differing zoning or undesirable adjacencies such as highways.

### Green Spaces & Community Gardens in UPT:

- |                                 |                                 |                             |
|---------------------------------|---------------------------------|-----------------------------|
| 1. Rose Tree County Park        | 6. Rose Tree Elementary School  | 12. Ridley Creek State Park |
| 2. Rose Tree Community Garden   | 7. Springton Lake Middle School | (partial)                   |
| 3. Lewis W. Scott Memorial Park | 8. Weldon Tot Lot               | 13. Phillip Green Park      |
| 4. Cherry Street Park           | 9. Houtman Park                 | 14. Media Cemetery          |
| 5. Ray Roche Park               | 10. Thompson Park               | 15. Calvary Cemetery        |
|                                 | 11. Glen Providence Park        |                             |



Open lawn space bordered by shade trees at Rose Tree County Park.



Multipurpose sports fields at Cherry Street Park.



ADA Accessible path at Houtman Park.

## **Benefits**

- Physical and visual access to green space has been linked to **increased mental and physical health, reduced risk of chronic disease, and lower death rates** by numerous studies completed worldwide.
  - Reduced stress and anxiety.
  - Speedier recovery from illnesses.
  - Cleaner air and water.
  - Promoting healthier, active lifestyles.
- Community and backyard gardening Increased accessibility to fresh produce for healthier diets.
- Environmental impacts:
  - Promote biodiversity.
  - Trees and plants filter pollutants from the air.
  - Naturally offset urban heat island effects.
- Develop a strong sense of community.

## **Objectives**

- Inventory the type, scale, amenities, and programming of existing green spaces in UPT along with accessibility to residents.
  - Identify vacant lots with potential for future green spaces or community gardens.
  - Identify forested or undeveloped lots with high habitat value ideal for preservation.
- Prioritize plant species that are native with high pollinator value, as well as banning the use of invasive plant species.
- Allocate space for additional community gardens to increase accessibility to fresh and nutritious foods, creating community ties, and reducing emissions from food transportation.<sup>46 47</sup>

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<sup>46</sup> NSW Government. *Climate change, green cover, and open spaces*.

<https://www.climatechange.environment.nsw.gov.au/green-cover-and-open-spaces>

<sup>47</sup> EPA. *Green Streets and Community Open Space*. <https://www.epa.gov/G3/green-streets-and-community-open-space>

## Homegrown National Park® Campaign



### **Description:**

Founded and introduced by Doug Tallamy in his book *Nature's Best Hope*, published in 2019, Homegrown National Park (HNP) is the largest collective conservation campaign ever developed or attempted. Through his research as T.A. Baker Professor of Agriculture in the Department of Entomology and Wildlife Ecology at the University of Delaware, Tallamy identified a major flaw in previous conservation efforts; our natural lands and National Parks are too small and disconnected to adequately preserve the biodiversity of plant and animal species that our ecosystems depend on<sup>48</sup>.

The solution proposed in *Nature's Best Hope* is the HNP. 86% of the land east of the Mississippi is privately owned, most of which is dominated by conventional lawns. These private lands present the greatest opportunity for increasing biodiversity and creating a habitat that is rich with food sources for birds, beneficial insects, and pollinators. If each American landowner committed to replanting half of his or her lawn with native species, we could see ecosystem function restored to 20 million acres that are currently an ecological wasteland<sup>49</sup>.

HNP calls individual homeowners, property owners, land managers, farmers, and anyone with some soil to plant in to take action to regenerate biodiversity, improve ecosystem function, create new ecological networks, plant native species, and remove invasive plants<sup>50</sup>.

The certification process to register a meadow can be very streamlined into a permit application, requiring applicants to submit stamped plans from certified landscape architects for approval.

### **Benefits**

- Free for participants to be included on the Homegrown National Park Map.
- Provides a significant resource for sustainable practices.

### **Objectives**

- Promote HNP to residents and business owners to encourage participation.
- Add applicable UPT-owned properties to the map.
- Provide incentive programs for planting native and reducing lawns.

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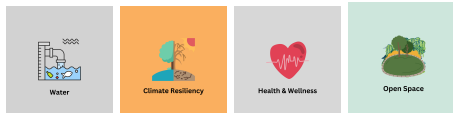
<sup>48</sup> Homegrown National Park. Website. <https://www.homegrownnationalpark.org/about-us/>

<sup>49</sup> Tallamy, Douglas W (Portland, Or. 2019). *Nature's Best Hope: A New Approach to Conservation That Starts in Your Yard*. Portland, Oregon. Timber Press.

<sup>50</sup> Homegrown National Park. Website. <https://www.homegrownnationalpark.org/about-us/>



## Zoning Review/Survey of Township Land



### **Description:**

Currently, Upper Providence Township adheres to the standards of the 2021 International Property Maintenance Code to govern and regulate conditions and use of all property, buildings, and structures. Ordinance 538 adopted in June 2022 states that grass may not exceed 8" in height. However, the continued spread of suburban development leads to an increase in the area of lawns and diminishes native vegetation and wildlife habitats. Allowing the Township and its residents to cultivate all or part of their properties as registered perennial meadows/prairies ultimately improves health, safety, and overall quality of life. Meadows are areas containing native grasses and flowering plants that serve beneficial ecological functions and do not contain invasive species or noxious weeds.

The adoption of a sustainable landscaping ordinance like the one linked from York County PA, is a low-cost, high-impact step towards overall greener practices townwide. A perennial meadow requires 2-3 years to mature; Once fully established it is incredibly low-maintenance, requiring minimal weeding and mowing once a year.<sup>51</sup> The certification process to register a meadow can be very streamlined into a permit application, requiring applicants to submit stamped plans from certified landscape architects for approval.

### **Benefits**

- Lowered greenhouse gas emissions and improved air quality
- Cost savings on fuel and labor because of less mowing
- Significant reduction in municipal and household Yard Waste bound for landfill or incinerators
- Improved stormwater management and water quality because deep-root meadows filter and absorb runoff
- Prevention of erosion and sedimentation because of deep-rooted native grass species
- Proliferation of vital native habitats
- Creation of buffers and screens which will reduce noise, heat, and light pollution

### **Objectives**

- Provide model ordinances of Sustainable Property Maintenance to UPT council for consideration<sup>52</sup>
- Allow for meadows, prairies, and pollinator gardens in any available UPT public land, especially where it provides public works cost-saving opportunities.
- Allow for residents to register properties as meadows or prairies and adhere to appropriate upkeep and maintenance according to standards set forth in the PA Dept of Agriculture Noxious Weeds List.<sup>53</sup>

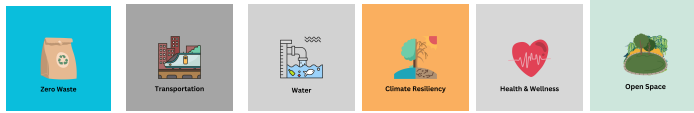
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<sup>51</sup> PennState Extension, *Meadows and Prairies: Wildlife-Friendly Alternatives to Lawn*, <https://extension.psu.edu/meadows-and-prairies-wildlife-friendly-alternatives-to-lawn>

<sup>52</sup> York County Sustainable Landscaping Model Ordinance, <https://www.ycpc.org/DocumentCenter/View/303/Model-Sustainable-Landscaping-Ordinance-Final-01-27-2014-PDF>

<sup>53</sup> Controlled Plant & Noxious Weeds, *Controlled Plant List*: [https://www.agriculture.pa.gov/Plants\\_Land\\_Water/PlantIndustry/NIPPP/Pages/Controlled-Plant-Noxious-Weed.aspx](https://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/NIPPP/Pages/Controlled-Plant-Noxious-Weed.aspx)

## Implementing and Promoting Educational Workshops on Sustainability



### **Description:**

Educational workshops are a low-cost way but effective to promote long-term behavior change for environmental sustainability. Studies have shown that environmental education for children and adolescents leads to improvements in environmental knowledge, intentions, and behaviors, with greater potential for long-term impact as these populations become decision-makers in communities, businesses, and government<sup>54</sup>. For adults, educational programs that promote a sense of community, shared values, and agency while building skills also result in behavior change for environmental sustainability<sup>55</sup>. Taken together these activities could build support for and participation in various sustainability initiatives in the township as citizens are informed and empowered to take action both individually and collectively.

### **Benefits**

- Increased knowledge of and attitudes about a range of environmental sustainability topics including waste reduction, recycling, water conservation, sustainable energy, responsible consumption, etc.
- Behavior changes for environmental sustainability including support of and participation in the programs and activities referenced in the above report.

### **Objectives**

- Partner with UPT schools and educational institutions to understand existing environmental education programs and initiatives and, where possible, connect these to UPT sustainability initiatives. For example:
  - School waste reduction and composting programs
  - Community gardens
  - Energy conservation programs
- Identify community organizations and local colleges/universities that are willing to offer free or low-cost educational programs on environmental sustainability at local events.
- Partner with local nonprofits to provide service-based learning opportunities combining education and community building. For example:
  - Waterway clean-ups that include a short introduction on methods to keep waste and hazardous materials out of local streams, rivers, and lakes
  - Tree planting or community gardening projects that provide instruction to volunteers on planting and preserving native species
- Partner with companies/providers to create educational materials and/or workshops on topics related to programs referenced in this report. For example:
  - Partner with recycling and composting companies to educate residents on proper disposal of recyclables, options for hazardous or hard-to-recycle waste, home-based and commercial composting, etc<sup>56</sup>.
  - Partner with renewable energy providers to provide workshops on the installation and benefits of solar panels.

<sup>54</sup> Does environmental education benefit environmental outcomes in children and adolescents? A meta-analysis. Journal of Environmental Psychology, Vol. 81, June 2022. <https://www.sciencedirect.com/science/article/pii/S0272494422000275>

<sup>55</sup> Adult Climate Change Education Advances Learning, Self-Efficacy, and Agency for Community-Scale Stewardship. Sustainability, Vol. 14, 2022.

[https://www.researchgate.net/publication/358523509\\_Adult\\_Climate\\_Change\\_Education\\_Advances\\_Learning\\_Self-Efficacy\\_and\\_Agency\\_for\\_Community-Scale\\_Stewardship](https://www.researchgate.net/publication/358523509_Adult_Climate_Change_Education_Advances_Learning_Self-Efficacy_and_Agency_for_Community-Scale_Stewardship)

<sup>56</sup> Arizona Department of Environmental Quality Educational Video Examples  
[https://www.youtube.com/playlist?list=PLgjwtvmJESmRji75ZgZTrbftN1BvUEF\\_R](https://www.youtube.com/playlist?list=PLgjwtvmJESmRji75ZgZTrbftN1BvUEF_R)

## Implementing Vision Zero Initiatives & Strategic Transportation Planning



### **Description:**

Vision Zero is a departure from the traditional approach to streetscape safety. It is a strategy to reduce and eliminate all traffic-related fatalities and severe injuries while delivering safe, healthy, and equitable mobility for all.

First applied in Sweden in the 1990s, Vision Zero has a proven record of success throughout Europe and is now gaining traction in the United States – with a growing number of grants, master planning projects, and community efforts<sup>57</sup>. The campaign recognizes that people (pedestrians, cyclists, and those behind the wheel) make mistakes. More importantly, these mistakes can be mitigated, and even prevented, through a multidisciplinary and collaborative approach to road and streetscape design.

### **General Vision Zero strategies include**

1. building a collaborative, diverse group of stakeholders, including transportation and planning professionals.
2. collecting, analyzing, and utilizing data to identify and understand trends, potential conflicts, and their resolutions.
3. prioritizing equity and community engagement.
4. implementing Complete Streets design (safety lighting, protected bike lanes and parking, ample pedestrian sidewalk, shade trees for pedestrian comfort, etc.)
5. managing travel and turning speeds.
6. creating safe mobility for individuals of all abilities.
7. implementing a timeline that integrates accountability and transparency.



Pictures courtesy of Zachary Baier



A street in Upper Providence Township



No consistent sidewalk

### **Benefits:**

- Improvement of the public realm and creation of a sense of place (community) through streetscape design.
- Increase of defined, accessible, and safe pedestrian spaces.
- Decrease of fatalities and injuries from traffic-related accidents.
- Improvement of human health due to the possibilities of walking and biking.

### **Objectives:**

- Install traffic calming devices, e.g. detectable Warning Surfaces (DWS), signalized crossings, and raised crosswalks.
- Create designated protected bike lanes (parallel bike lanes next to roads or integrate them into existing roadways).

<sup>57</sup> Vision Zero Network. "What is Vision Zero?" <https://visionzeronetwork.org/about/what-is-vision-zero/>

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- Improve sidewalk infrastructure.
- Adopt a “Main Street Program”, a commercial district to support and/or reinvigorate businesses.
- Enhance public transportation infrastructure (improve bus routes, stops, and pedestrian waiting areas, create clear sight lines and covered shelters at transit stops).
- Incorporate roundabouts in high crash intersections.
- Identify pathway and budget requirements to begin planning and ultimately implementing Vision Zero Initiatives.
- Improve accessibility throughout UPT by infilling and correcting gaps in the sidewalk network, reimagining roadways, and increasing safety and accessibility for public transportation systems.
- Complete the UPT network of sidewalks, engage a Transportation Planning firm or professional to work with UPT Highway Department and Planning Commission to develop a masterplan, determine feasibility, and identify potential costs and phases.