

TRANSPORTATION AND INFRASTRUCTURE

Introduction

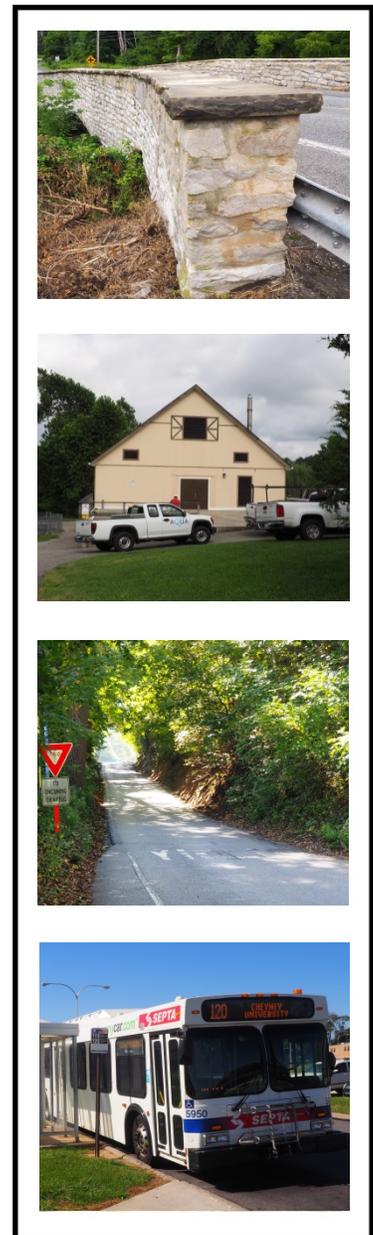
An effective and comprehensive network of transportation facilities and other public infrastructure is a critical component in the overall quality of life experienced by Township residents. The availability of modern infrastructure has a direct impact on where new development and redevelopment may occur across the Township.

Thornbury has an extensive network of roads with the Township responsible for approximately seventeen miles and PennDOT responsible for approximately six miles of public roads. This network is complimented by a growing system of trails and other pedestrian facilities in addition to bus service serving Cheyney University. Single family homes are served equally by public sewers and individual on-lot systems. Finally, the promotion of greater energy conservation will continue to evolve as renewable/green energy sources and practices become more affordable and mainstream.

This chapter focuses on addressing the primary challenges and opportunities to achieve positive outcomes as it relates to all of the above. Issues specific to stormwater management are discussed as part of Chapter 6: Community Facilities and Services.

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Challenges & Opportunities

The following challenges and opportunities were identified as part of the inventory and analysis of Township transportation facilities and infrastructure presented in Chapter 7: Existing Township Conditions.

- Nearly all working Township residents commute to work outside of Thornbury resulting in significant road congestion in the morning and evening rush hours.
- Interconnected pedestrian and bicycle infrastructure can help to reduce the reliance on motor vehicles for local trips between existing neighborhoods, government facilities, commercial centers, and parks/recreational facilities.
- Areas of the Township with aging on-lot systems may need to be connected to public sewer but there presently is not availability to access a public system.
- Annually, township residents spend an estimated \$5.4 million or \$4,861 per household, for energy (electricity, home heating, and transportation fuel) and release 40,200 metric tons of greenhouse gases.

Goals and Objectives

Transportation Goal

Promote a safe, effective, and diversified transportation and circulation system that addresses current and future needs in coordination with land use planning and resource protection objectives.

Transportation Objectives

Roadways

1. Maintain a roadway network that safely and effectively accommodates vehicular traffic while supporting other community objectives for pedestrian and bicycle mobility as well as agricultural needs.
2. Promote short range safety improvements necessary to keep roads and bridges within the Township operating safely and efficiently and participate in opportunities to advocate for local transportation improvements.



Historic County Bridge No. 148 spans Goose Creek along Route 926, and is considered to be valuable community resource.

3. Ensure roadway functional classification and design standards reflect the values of the Township and protect the scenic value of these roads.
4. Promote long range access and capacity planning for the Route 202 and Route 926 corridors that assures adequate future capacity on these key roadways.
5. Discourage the use of local roadways and connector roads from neighboring municipalities as cut-thrus for motorists driving to destinations outside of the Township.
6. Manage roadway design, speed, volume, and safety in and around areas with increased pedestrian activities, such as schools, parks, and multi-family developments.



Bridlewood Boulevard bisects the Brandywine at Thornbury community between Routes 202 and 926

Multimodal (alternatives to driving)

7. Promote public transportation, carpooling, and ride sharing techniques when practicable to reduce the burden on Township roadways.
8. Promote opportunities for both the development and expansion of a pedestrian and bicycle network within the Township.

Sewage Goal

Ensure adequate and safe sewage disposal throughout the Township that promote the Township’s land use goals without threatening sensitive natural resources.

Sewage Objectives

1. Provide access to public sewers to Thornbury Estates, and to other locations where practicable, to serve as a replacement for aging and/or failing on-lot systems.
2. Ensure the existing public sewer system, operated by third part entities, does not suffer from issues related to inflow and infiltration (I&I).
3. Ensure private, on-lot facilities function properly as to protect the general health, safety, and welfare of the community.



The sewage treatment plant operated by Aqua PA that presently serves the Brandywine at Thornbury community

Energy Conservation Goal

Promote energy efficiency, conservation, and clean energy sources to reduce overall consumption and costs of energy.

Energy Conservation Objectives

1. Encourage the development, distribution, and use of alternative fuels and energy sources where appropriate, with a preference for those energy sources that are renewable, sustainable, and locally-generated.
2. Promote the design and construction of subdivision and land development utilizing energy efficient, sustainable, and green technologies and construction methods.
3. Use energy efficient technologies and practices for Township facilities and equipment.
4. Provide regulatory structure to promote the installation of alternative energy sources and designate appropriate areas for same.



Solar panel array installed on a restroom building in a public park elsewhere in the County

Recommendations

Recommendations 4-A thru 4-R below detail how Thornbury Township can provide and promote appropriate transportation facilities and other public infrastructure for its residents and business owners. Given certain facilities and services are beyond the Township's control, some recommendations focus on voluntary and educational efforts. Implementation of the recommendations identified below will help Thornbury achieve its transportation and infrastructure goal.

Transportation

Roadways

- 4-A.** Improve the overall safety for the entirety of both the Route 202 and Route 926 corridors as well as develop strategies to prevent through 202 traffic from utilizing Township streets as alternate routes. Specific emphasis should be given to resolve congestion and safety at the Route 202/926 intersection.

The Township should continue to communicate and coordinate with adjacent municipalities, Chester County, Delaware County, and PennDOT in regard to transportation issues. This is essential for specific tasks such as the funding and reconstruction of bridges that cross municipal



Route 202 is a major transportation corridor that sees significant congestion as it traverses the Township

borders. Planning for a bicycle and pedestrian network with adjacent municipalities should be a priority to create viable facilities that encourage non-vehicular transportation and healthy options for residents. Further consideration should also be given to amending the zoning ordinance to define setbacks from the ultimate right-of-way along both the 202 and 926 corridors.

4-B. Continue to preserve South Concord Road as a scenic road while improving its overall safety for pedestrian and bicycle users.

The Township has previously implemented several traffic calming measures along South Concord Road. An area where safer pedestrian and bicycle accommodation should be considered is the one-way “hollow” segment. Development of a more defined pedestrian and bicycle route can serve to provide for additional traffic calming as well as further preserve the “hollow” as a scenic feature of the Township.



The South Concord Road “hollow” is a critical scenic element of the roadway

4-C. Monitor traffic volumes along impacted Township roads and implement traffic calming when warranted in a collaborative, community based process.

Traffic calming encourages safer, more responsible driving and potentially reduces traffic flow through physical design and other measures to improve safety for motorists, pedestrians, and cyclists. Traffic calming devices include speed bumps/humps/tables, chicanes, curb extensions, etc. A continued dialogue with Brandywine at Thornbury residents on traffic and speed issues along Bridlewood Boulevard should continue. Additional roads where traffic calming measures could be considered include: South New Street, Old Bailey Lane, William Penn Boulevard, and South Concoed Road.

Further, the Township should reference a traffic calming handbook to be used to facilitate the implementation of traffic calming measures where warranted. Measures outlined by the handbook could further be required within future land developments of a certain type or density in conjunction with the subdivision and land development ordinance.

4-D. Periodically review the zoning and subdivision and land development ordinances to ensure standards for roads are current and up-to-date with contemporary best practices.

As Township ordinances are living documents, they should be reviewed periodically by the Township administration, planner, and engineer. These reviews are critical in ensuring the Township’s regulatory structure is consistent with state and federal law as well as incorporates contemporary standards and guidelines where applicable.

4-E. Amend the Official Map to reflect identified traffic calming priorities and areas in need of improvements from this plan.

An official map shows the locations of planned future public lands and expresses a municipality’s interest in potentially acquiring these lands at a future date and notifies developers and property owners of this interest. Authorized under Article IV of the Municipalities Planning Code, the Official Map affords the municipality the opportunity to negotiate the purchase of lands identified on it for a period not to exceed one year when a subdivision or land development is proposed. Thornbury initially approved an Official Map in 1995, but has not amended it since 2000.

Multimodal (alternatives to driving)

4-F. Determine if there is a need for additional transit connections to serve residents and business owners and work with SEPTA to increase their services if needed and where practicable.

Presently SEPTA provides limited bus services to Cheyney University. Additionally, the ROW for the former West Chester Regional Rail line traverses the Township with the former Westtown Station located adjacent to Goose Creek Park. The Township should actively participate in any future study undertaken on this issue, specifically with any proposed restoration of rail service to West Chester or bus service along the 202 corridor.



SEPTA bus shelter for the Route 120 service on the campus of Cheyney University

4-G. Support efforts to restore SEPTA Regional Rail service to West Chester.

The ROW for the former West Chester Regional Rail line traverses the Township with the former Westtown Station located adjacent to Goose Creek Park. The Township should actively participate in any future study undertaken on this issue, as its restoration will likely have a significant impact on future developmet in the Township.

4-H. Coordinate with SEPTA and Cheyney University to improve overall safety and amenities of the existing bus stop adjacent to Cope Hall on University Drive.

The 2016 *Enhancing the Transit Environment* publication from the CCPC provided recommendations for the improvement of this facility. These recommendations should be given consideration and implemented to improve the overall experience and safety of users of the stop.

4-I. Explore funding opportunities for connection of existing trails and pedestrian facilities to create a network of trails that link to parks and other community facilities.

Alternative sources such as TCDI (Transportation and Community Development Initiative), TAP (Transportation Alternatives Program), CMAQ (Congestion Mitigation and Air Quality Improvement) funding from the

DVRPC should be investigated. Seeking funding from local businesses and organizations for smaller projects could be another opportunity.

- 4-J.** Periodically review the zoning and subdivision and land development ordinances to ensure standards for sidewalks and trails are current and up-to-date with contemporary best practices.

See 4-E above.

- 4-K.** Amend the Official Map to reflect identified trail corridors and pedestrian and bicycle improvements from this plan.

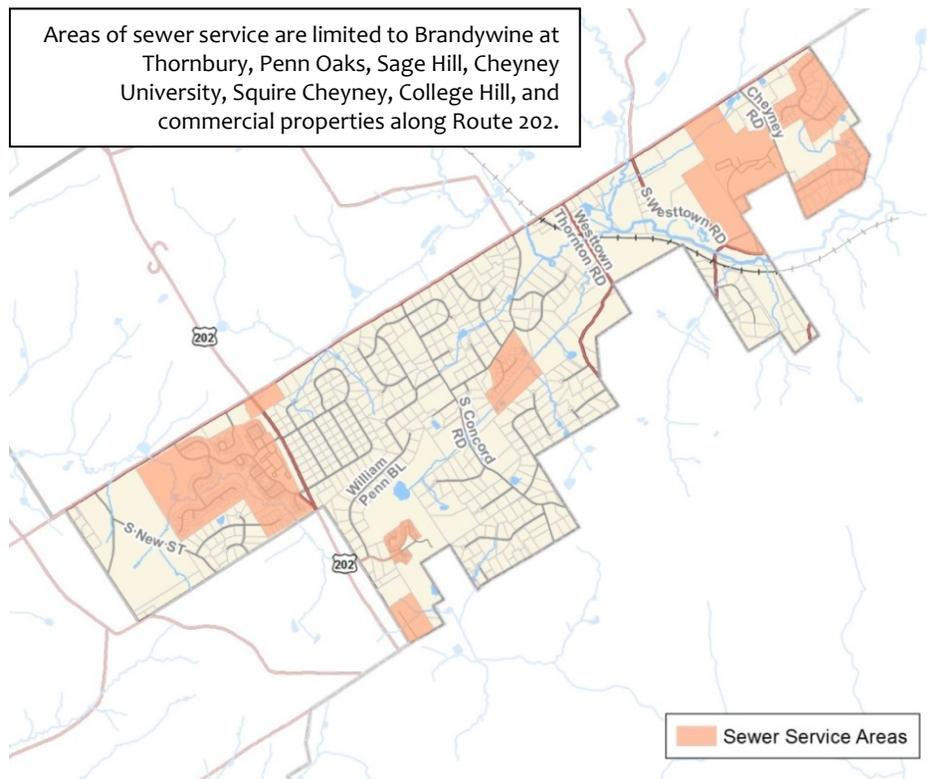
See 4-F above.

Sewers

- 4-L.** Determine if areas in addition to Thornbury Estates should be considered for future expansion of public sewers.

Thornbury Estates has previously been identified as an area potentially in need of access to public sewers. However a Township-wide sewer needs inventory has not been completed since the early 2000s and one should be considered to potentially identify additional needs. See Figure 4-1.

Figure 4-1: Sewer Service



Source: CCPC, 2017

- 4-M.** Partner with Aqua Pennsylvania and/or the West Goshen Sewer Authority to determine what the estimated costs would be for the expansion of public sewer to the Thornbury Estates community.

As Thornbury Estates has previously been identified as an area in need of access to public sewers, the Township should engage a sewage engineer to work with plant operators to determine the most efficient and cost effective way to sewer the community.

- 4-N.** Continue to support the use of private, on-lot facilities where appropriate and ensure they are functioning properly through the on-going Management Program for Sewage Systems.

As availability to public sewer is not always an option for all property owners, continuing to support the use of private, on-lot facilities is critical in the provision of proper sewage disposal. To ensure public health, rigorous enforcement of the existing Management Program needs to continue. Further, the use of sewage facilities that boost groundwater recharge, as opposed to those that export water out of the local watershed, should be encouraged.

Energy Conservation

- 4-O.** Incorporate into the zoning ordinance provisions permitting both principal and accessory renewable energy systems as uses throughout the Township (i.e. geothermal, solar and wind energy systems).

The Township's regulation of renewable energy systems, such as solar, geothermal, or wind power, should focus on minimizing conflicts between uses while respecting an individual property owner's right to generate power on-site. Guidance for regulations is available from the Montgomery County Planning Commission's publication on renewable energy, *Renewable Energy: A Series on Alternative Energy Sources* (2011), as well as from DVRPC's model ordinances for solar, geothermal, and wind, as developed by their Alternative Energy Ordinance Working Group (available at: <http://www.dvrpc.org/energyclimate/aeowg.htm>). Moving forward, the ordinance will require periodic review to ensure it is current with the technologies in use.



Windmills provide for a renewable energy source that does not produce any greenhouse gases

- 4-P.** Incorporate into the subdivision and land development ordinance provisions requiring sustainable building construction and incorporation of green practices into development when practicable.

Guidance for regulations is available from the U.S. Green Building Council as it relates to LEED for Neighborhood Development (available at: <https://www.usgbc.org/guide/nd>). These elements can include: solar orientation of structures to the south, use of recycled construction materials, harvesting of rainwater for landscape/lawn irrigation, electric vehicle

charging stations, etc. Moving forward, the ordinance will require periodic review to ensure it is current with the technologies in use.

- 4-Q.** Complete an Energy Assessment Report for existing municipal facilities and any facility under consideration for acquisition by the Township in the future, to identify strategies to improve energy efficiency and reduce overall costs in its provision.

The Township can take the lead on energy conservation efforts with its own facilities, equipment, and activities. Based on the report findings, the Township can prioritize improvements based on return on investment, funding availability, and the condition of the existing equipment.

- 4-R.** Support collaborative municipal energy leadership initiatives in conjunction with regional municipal partners.

With renewable energy systems becoming more commonplace and affordable, partnerships should be developed with organizations such as the West Chester Area Council of Governments (WCACOG) and the Pennsylvania Association of Township Supervisors (PSATS) to further promote energy conservation and sustainable practices. These partnerships can serve to stay informed of new technologies and practices that may be considered for further inclusion in the zoning and/or subdivision ordinances.

Implementation

Priorities for implementation of the recommendations are established in Chapter 2: Implementation Strategies.

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