



LOWER MERION
SUBDIVISION &
LAND DEVELOPMENT
CODE UPDATE

Assessment & Analysis

May, 2021

Lower Merion Township Board of Commissioners

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Cover Image:

Detail from 1913 development plan for West Overbrook, Lower Merion Township, Pa.
Herman Wendell & Milton W. Young, Developers
Drawn by E.J. Wendell, Landscape Architect

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1.a.

Executive Summary

The Subdivision and Land Development Ordinance (SALDO), Chapter 135 of the Lower Merion Township Code, provides standards for processing land development plans, plan content, and general standards for land development, including the layout and design of roadways and improvements in the right-of-way. The SALDO includes minimum standards for how improvements are constructed, but just as importantly, defines the process of designing and laying out a land development plan. A clear and up to date SALDO can be the key to preserving and enhancing the community's character.

What is a Subdivision & Land Development Code?

The SALDO is the most commonly used land development control mechanism in the Commonwealth of Pennsylvania. The Pennsylvania Municipalities Planning Code (Act 247 of 1968) empowers municipalities to enact SALDOs and establishes minimum ordinance requirements. Article V of the MPC contains the framework for the subdivision and land development process. Article V-A establishes standards for municipal capital improvements, an optional element of the SALDO.

Purpose of the SALDO

- Enables the municipality to grow in a coordinated manner in accordance with the comprehensive plan.
- Ensures that all future development is well designed to protect the health, safety, and general welfare of the community.
- Provides consumer protection to a lot or development purchaser by ensuring the creation of developable lots and adequately designed developments.
- Enables a fair apportioning of public and private costs for infrastructure improvements.
- Establishes uniform standards to ensure that public infrastructure and other community facilities are built properly.
- Coordinates private development with public infrastructure development.
- Prevents the imposition of undue future cost burdens on the municipality.
- Establishes a fair and expeditious process for reviewing subdivisions and land developments.

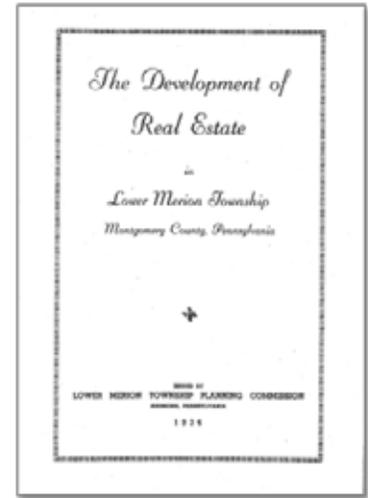
*- Montgomery County Model
Subdivision & Land Development
Code, 2012*

History of the SALDO in Lower Merion Township

As far back as 1895, owners of land subdivided into lots were required under state law to record a plan of subdivision in the county office of the recorder of deeds. Subsequent acts of the Pennsylvania Assembly authorized municipalities to require the submission and approval of plans prior to recording.

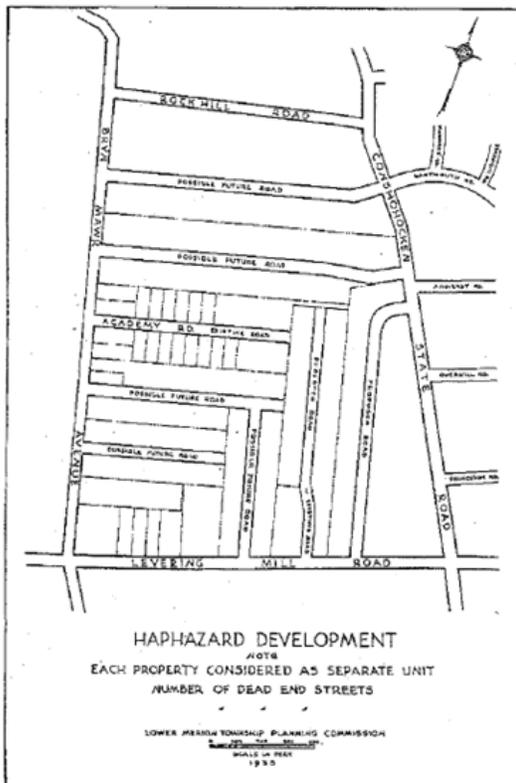
In 1930, the Township enacted Ordinance No. 360 to regulate the construction, opening and dedication of roads, streets, lanes and alleys, and drainage facilities. The ordinance established specifications for roadway width and alignment, and a permitting process involving Township review and the approval of the Board of Commissioners, and permitting fee of \$1.00. The ordinance was essentially the Township's first Subdivision & Land Development Code.

The Lower Merion Township Planning Commission prepared The Development of Real Estate guidebook in 1936, which essentially provided the first set of design guidelines for new development in the community.



“The subdivision and development of real estate is a highly important element in the physical expansion in any community. The importance of adopting a proper development plan at the outset cannot be over-emphasized because after the work has been completed it normally will remain, for better or worse, a permanent condition in the community.” – The Development of Real Estate, Lower Merion Township, 1936

The booklet contained the key suggestions and illustrations of haphazard and planned development.



“The soundness of any particular development should be a matter of concern to everyone, because if it is not properly planned it may affect adversely not only the developer, but also the municipal authorities and the public in general.”

– *The Development of Real Estate, Lower Merion Township, 1936*

In 1948 the Subdivision and Land Development Code was adopted by the Board of Commissioners, which included enhanced standards to address development occurring in the community and current practices. Amendments were made to the SALDO over time.

The Pennsylvania Municipalities Planning Code (MPC), adopted in 1968, consolidated the Commonwealth’s community planning laws including subdivision and land development. The MPC has been updated several times since its adoption. Many of the changes better defined the powers of municipalities to regulate growth and development and applied new techniques to enhance the character of local communities.

In 1978 the SALDO was repealed and replaced with the current code. While the SALDO has been amended to incorporate new best practices, the code provisions are largely oriented to greenfield development. A key recommendation of the 2016 Comprehensive Plan for Lower Merion Township was to update the Subdivision & Land Development Code to provide standards to address infill and redevelopment, current best practices, and to better reflect the community’s goals.

Difference between SALDO & Zoning

In 2020, Lower Merion Township adopted a new Zoning Code advancing the community vision and community development objectives set for the in the 2016 Comprehensive Plan. The new Zoning Code is graphic rich and incorporate many form-based elements. The new Code is a hybrid, including both traditional Euclidean Zoning standards and form-based elements. The new SALDO will be graphic rich and logically organized to ensure clarity and ease of use and clarity. The SALDO provisions will align with the recommendations of the Comprehensive Plan, include current best practices, align with the recently adopted Zoning Code and provide a framework to address infill and redevelopment.

While the Zoning Code and the Subdivision & Land Development Code both regulate development in a municipality, they address different aspects of the development design and review process. The Zoning Code includes a Zoning Map establishing districts and corresponding development standards. The SALDO contains design requirements, engineering and construction standards and process guidelines. Since there are areas where the two codes overlap, particularly with regards to design elements, it is important to ensure that appropriate cross referencing is established.

| SALDO | Zoning Ordinance |
|---------------------------------------|---|
| Lot layout and design | Location land uses |
| Required infrastructure improvements | Density of uses at a site |
| Open space and recreation design | Requirements for the amount of open space and other public improvements |
| Approval process requirements | Bulk and dimensional standards for setbacks and height of structures |
| Financial guarantees for improvements | Building and impervious coverage |
| Waiver of standards by governing body | Variances acted upon only by zoning hearing board |
| Regulated under Article 5 of the MPC | Regulated under Article 6 of the MPC |

Preparing a New SALDO

The update to the SALDO includes the following four phases:

- Phase 1 – Assessment and Analysis;
- Phase 2 – Drafting the Subdivision & Land Development Code;
- Phase 3 – Adoption Process; and
- Phase 4 – Implementation

The Project Schedule lays out the tasks associated with each of the phases listed above. This report includes the assessment and analysis of Lower Merion Township's Subdivision and Land Development Code, highlights key findings, and includes recommendations to incorporate new concepts and current best practices in the new SALDO. The assessment and analysis involved:

1. Review of Base Documents: Township Codes, Pennsylvania Municipalities Planning Code, and the 2016 Lower Merion Township Comprehensive Plan as well as related planning studies were reviewed.
2. Analysis of the Current Provisions: This step involved a review of best practices employed by other communities, a review of recent land development case studies, an audit of the Subdivision and Land Development Code by the Pennsylvania Environmental Council to identify impediments to green stormwater infrastructure, and a review of survey results taken by local practitioners familiar with the standards of the Subdivision & Land Development Code.

Key Findings:

- The SALDO should be updated to include current best practices, align with the recently adopted Comprehensive Plan and Zoning Code and provide a framework to address infill and redevelopment. The document should integrate the Township's broader vision of land development, which also includes historic preservation, open space preservation, manufacturing of new open space and sustainable design.
- The Subdivision and Land Development Code should be graphically rich and easy to use. The standards should align with the Zoning Code and other complementary chapters of the Township Code.
- The Township is uniquely positioned to shift roadway design prioritization from accommodating for vehicles only to providing for multiple modes of transportation. New standards should provide context sensitive design solutions.
- Greening standards should be synthesized with other chapters of the Township Code and enhanced to include current best management practices and to efficiently retrofit the built environment to meet current and projected community needs. Performance based standards should be included in the new Code. Performance based standards should be included in the new Code.
- Recreation and community amenity standards should be strengthened to ensure that new development integrates visible and accessible civic amenities.

1.b.

Project Schedule & Work Plan

| Project Schedule & Work Plan | | Meetings & Presentations | | |
|------------------------------|---|--------------------------|-------------|-----------------|
| TASKS | | TAC Meetings | WG Meetings | Public Meetings |
| Phase 1 | Assessment and Analysis (Month 1 - 4) | Monthly | As needed | 1 |
| Task 1 | Project Start-up | √ | √ | |
| Task 2 | Best Practices & Organization of Code | √ | √ | |
| Task 3 | Audit & Analysis of SALDO | √ | √ | |
| Task 4 | Draft Assessment and Analysis Findings | √ | √ | |
| Task 5 | Final Assessment and Analysis Findings | √ | √ | 1 |
| Task 6 | Revisions to the Project Schedule and Other adjustments | √ | √ | |
| Phase 2 | Drafting New SALDO Regulations (Month 4 - 8) | Monthly | As needed | 2 |
| Task 7 | Draft Subdivision & Land Development Ordinance | √ | √ | |
| Task 8 | Draft Official Map | √ | √ | |
| Task 9 | Testing Code Requirements (MCPC) | √ | √ | |
| Task 10 | Revised Draft Ordinance and Map | √ | √ | |
| Task 11 | Final Presentation | √ | √ | 2 |
| Phase 3 | Adoption Process (Month 9 - 13) | Monthly | As Needed | 4 |
| Task 12 | Public Meeting Prep, Advertising, Memos | √ | √ | |
| Task 13 | Presentation Aids and Graphics | √ | √ | |
| Task 14 | Public Meetings | √ | √ | 4 |
| Phase 4 | Implementation (Month 13 - 14) | Monthly | As Needed | 0 |
| Task 15 | Training Sessions | √ | √ | |
| Task 16 | Guidebook and Handout | √ | √ | |

Notes:

- A Authorization of Public Hearing
- B&P Building & Planning Committee
- BOC Board of Commissioners
- EAC Environmental Advisory Council
- PC Planning Commission
- STC Shade Tree Commission

2.a.

Best Practices

Staff reviewed adopted SALDO ordinances to understand best practices utilized by communities in Pennsylvania. The review was focused on communities within Pennsylvania with context sensitive traditional neighborhood development standards or form-based elements within their zoning code. This ensured that the communities were guided by the Commonwealth's enabling legislation, the Pennsylvania Municipalities Planning Code. The communities surveyed included

- Lititz Borough
- Penn Township (Lancaster County)
- West Whiteland Township
- Upper Dublin Township
- Penn Township (Chester County)

In reviewing these adopted SALDO ordinances staff:

- Identified elements included with the SALDO ordinances;
- Considered whether included elements address recommendations included in the Township's Comprehensive Plan;
- Reviewed applicable standards to understand if and how they ensure desired the result;
- Considered implications for implementing standards in our community.
- Staff's key takeaways from the SALDO review:
- Public Realm: Standards are primarily focused on the public realm and the relationship between the building and street
- Streetscape: Streetscape Standards are included and regulate placement of street trees, landscape verge, and incorporation of civic space
- Complete Streets: Elements advance a complete streets approach which considers and provides standards for all travel modes
- Architecture: Architecture or design standards where included are non-specific and un-measured to provide direction but not to limit options of overregulate.
- Use: Standards are user friendly with clear text and illustrations that demonstrate standards as applied.

Highlighted Communities:

LITITZ BOROUGH, LANCASTER COUNTY, PA

- Date SALDO Adopted: February 11, 2010
- Form Based Elements of SALDO:
- Public Street Frontage Requirements
- Curb, Tree Lawn, Sidewalk, Front Lawn
- Architectural Standards for Traditional Neighborhood Developments
- Lighting Fixture Standards

Architectural Design Standards

- Guidelines are written in a general way.
- Pictures are used to display desirable design standards



TCA

Article VI - Form Based Code
General Manual of Written and Graphic Design Standards
Lititz Borough - Lancaster County - Pennsylvania

Architectural Design



Multi-Family Dwellings, Sunnyside at Frick Park TND, Pittsburgh, PA



Townhomes, Belvedere at Doyle Square TND, Doylestown, PA



Townhomes, Wyncrest TND, Sandy Spring, MD



Duplex Units, Eagleview TND, Lionville, PA

Legislative Intent

20.165 Townhomes and duplex/twin dwellings are intended to provide housing diversity within the TND.

20.166 Duplex/twin dwellings are intended to provide for an economy of lots, and units at both ends of the building.

Design Standards

20.167 A variety of building types shall be created.

20.168 Single-family attached dwellings may include triplex and quadraplex units.

20.169 A variety of roof lines, architectural features and materials shall be provided to create diversity.

Lititz SALDO elements are present in recent developments, including:

The Wilbur Lititz (Mixed-Use Building- Multifamily Units, Hotel, Restaurant)

- SALDO Standards Applied:
 - Street Tree Standards
 - Streetscape Standards



Warwick Woodlands (80 Carriage House & Townhome Development)

- SALDO Standards Applied:
 - Lighting Fixture Standards
 - Public Street Frontage Standards



GREATER FORT WASHINGTON DISTRICT, UPPER DUBLIN, PA

Date SALDO Adopted: May 14, 2019

- Guidelines Include:
 - Pedestrian Connectivity, Streetscape, Landscape, Green Space & Public Space
 - Stormwater, Parking, Alternative Transportation
 - Architectural Form, Street Furniture, Signage
 - Form Based Elements of SALDO: Chapter 212-35 and Appendix A

Streetscape Standards

- The SALDO aims for Main Street character

Architectural Standards

- Guidelines are written in a general – unmeasurable form
- Pictures are used to display desirable design standards

Transportation/Complete Streets:

Guidelines often appear in a general form:

“Last-mile transit, multi-use trail linkages to existing pedestrian and/or trail networks, and the proposed Cross County Trail shall be provided to the maximum extent possible”

212-35.2.F. Streetscape



Design Standards - Greater Fort Washington District

A.6.1.

- The Streetscape shall consist of an interconnected network, and all streets shall not be limited.
- The Streetscape shall be enhanced by a diverse tree program in accordance with the Design Standards in Section 212.32.10.D.
- The Streetscape shall be enhanced with alternate Street Lights in order to illuminate both the street and Sidewalk.
- The Streetscape shall be enhanced with ADA compliant Sidewalks at a minimum width of 60 feet on both sides of all streets.
- ADA compliant Crosswalks shall be installed and maintenance of minimum width of 60 feet at all street intersections and across all intercity routes.

Upper Dublin Township

212-35.2.K. Architectural Form, Materials & Height



Design Standards - Greater Fort Washington District

A.11

- All new buildings shall be a minimum of 20 feet in height.
- All new buildings along the Mountain Road Corridor shall be sited as a Built-To-Line in order to promote the Streetscape character of the GWR District.
- New buildings shall have a gabled roof, or a portion of the roof's pitch.
- New buildings shall be sited with a play of white, medium, and dark tones, and the like.
- All new buildings shall have a vertical rhythm formed by Pilasters, Fasciations, Columns, and/or the composition of moldings and colors.
- New buildings shall have a recess or projection in the range of 12 to 24 inches every 60 feet of building facade length.
- New building materials and colors shall be considered, in order to enhance reflectance and glare.

Upper Dublin Township

212-35.2.E. Pedestrian Connectivity



Proposed Cross County Trail (Montgomery County Planning Commission)



Landscaped Median



Multi-use Trail providing connections and alternative forms of transportation

- Pedestrian Connections shall be provided in the form of Sidewalks, Crosswalks, Trails, and Pathways.
- Last-mile transit, multi-use trail linkages to existing pedestrian and/or trail networks, and the proposed Cross County Trail shall be provided to the maximum extent possible in order to increase overall connectivity.
- Pedestrian signage and signalization shall be provided at intersections in order to ensure Pedestrian safety.
- Traffic calming devices shall be provided in the form of: raised crosswalks; speed tables; bulbouts/neckdowns of the roadway; raised and/or landscaped medians; corner radius treatments; and the like.

2.b.

Land Development Case Studies

Introduction

A series of twelve Land Development Case Studies were performed to examine whether the current Subdivision and Land Development Ordinance (SALDO) regulations resulted in the desired outcomes and to identify potential issues in the application of the standards. Land development plans were reviewed with concern for general planning principles and contemporary needs of the community. While the community has evolved over time many of the SALDO provisions are still geared towards greenfield development of large open spaces.

Each Case Study example was selected due to perceived impact on the built environment, with challenges presented during the project approval process that were noted as extraordinary from aspects such as setbacks and screening, architectural design standards, transportation network impacts or landscaping. The developments are geographically distributed throughout the Township and cover a wide range of uses from an open space subdivision for single-family development to commercial and mixed-use development.

The purpose of the Case Study exercise was to audit provisions within the SALDO that may be identified for amendments or revisions. Analysis focused on deficiencies that may contradict planning principles and identified discrepancies requiring respective ordinance waivers. Notation of deficiencies were included as specific plan elements for each incidence in each SALDO Audit section. The following SALDO elements were identified throughout the analysis:

| SALDO Sections | |
|----------------|--|
| 1 | Architectural design standards (§155-3.9) |
| 2 | Buffer landscaping (§101-9.A.; §155-3.10) |
| 3 | Greening standards (§135-41.4) |
| 4 | Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) |
| 5 | Planted Buffer (135-31) |
| 6 | Preservation Area (155-147.B.5) |
| 7 | Public gathering space (§155-4.3.C.(5); Table 6.6.5) |
| 8 | Right-of-way and paving widths (§135-27.C.) |
| 9 | Screening of equipment (§155-3.14) |
| 10 | Shade Trees/Street Trees (135-30) |
| 11 | Sidewalks and crosswalks (§135-28) |
| 12 | Tree protection (§135-25) |

Summary

After comprehensive review Case Study projects, the plans were inventoried to assess common relief requirements and specific concerns for deviation from SALDO provisions. The Planning Team reviewed both Waivers Granted and SALDO Audit sections to understand where standards may require future reconsideration or total revisions.

Waivers Granted

A total of 33 instances of relief from various codes were cited during Waivers Granted analysis. The most common requests for relief were identified as within the Natural Features and Stormwater Management ordinances. However, spacing for street trees, irregular lot lines and lot depth ratios were also indicated as occurring more than once in the review process.

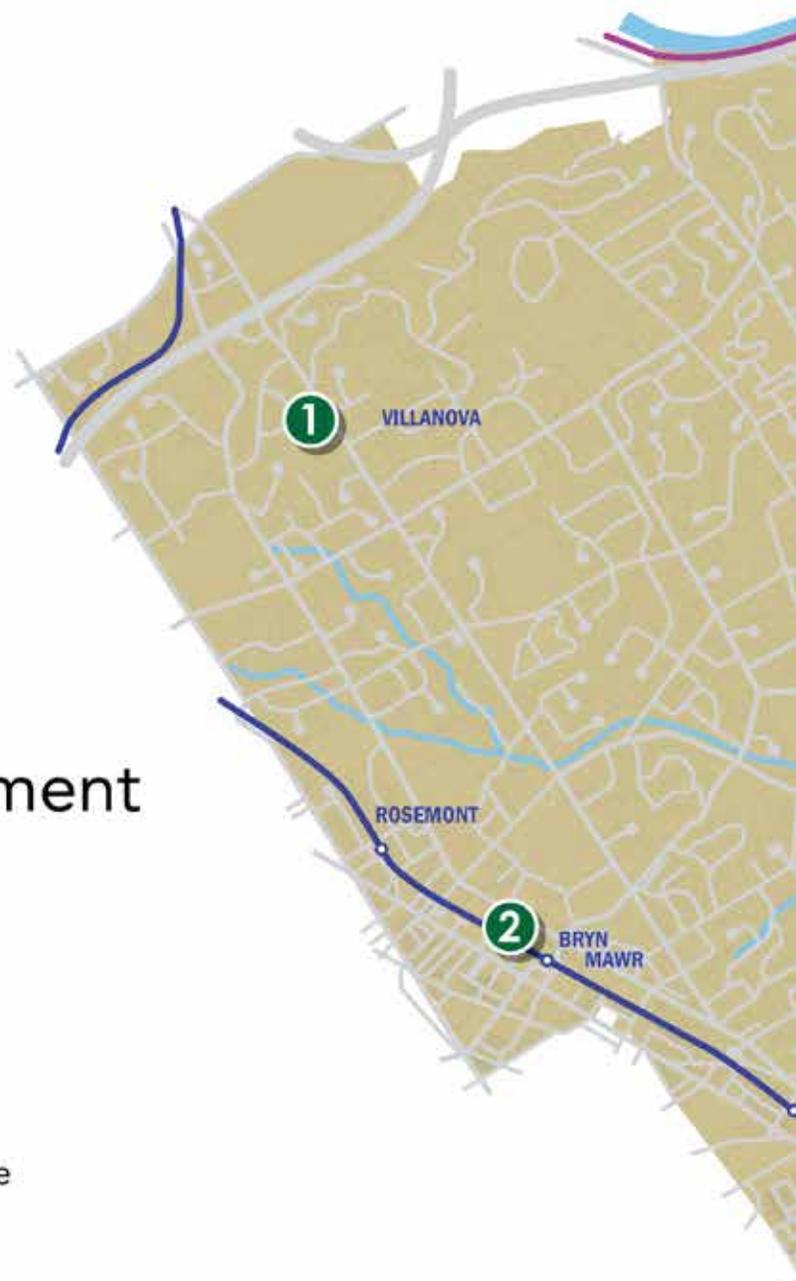
| Code Deviations | Total |
|---|-------|
| Natural Features Code - 101-5C(2.b) disturb steep slopes | 6 |
| Natural Features Code - Section 101-9, substitute trees | 3 |
| Stormwater Management Code Section 121-4.A.1, during construction stormwater requirements | 3 |
| Stormwater Management Code Section 121-4.E.2c, seepage beds | 3 |
| SALDO - 135-30: to not meet the minimum spacing for street trees. | 2 |
| SALDO - 135-35, Lots, to create an irregular lot line | 2 |
| SALDO - 135-35.A.1, to permit the depth to width ratio of the proposed lots to exceed 2½ to 1 | 2 |

SALDO Audit

During the case study analysis staff cited specific SALDO requirements that were applicable to each development. Each of the commonly cited SALDO Sections were inventoried. The following table indicates architectural design standards, sidewalks, street/shade trees, screening and buffering as the five most frequently cited.

| Rank | SALDO Sections | Reviewed |
|------|--|----------|
| 1 | Architectural design standards (§155-3.9) | 11 |
| | Sidewalks and crosswalks (§135-28) | 11 |
| 3 | Shade Trees/Street Trees (135-30) | 10 |
| 4 | Screening of equipment (§155-3.14) | 9 |
| 5 | Buffer landscaping (§101-9.A.; §155-3.10) | 8 |
| 6 | Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | 7 |
| | Public gathering space (§155-4.3.C.(5); Table 6.6.5) | 7 |
| 8 | Tree protection (§135-25) | 5 |
| 9 | Greening standards (§135-41.4) | 3 |
| 10 | Right-of-way and paving widths (§135-27.C.) | 2 |
| 11 | Planted Buffer (135-31) | 1 |
| | Preservation Area (155-147.B.5) | 1 |

The SALDO was written in 1948 for a developing community with a different point of view. The new Subdivision and Land Development Code will be refined to address the challenges of infill development and redevelopment. The new Subdivision and Land Development Code should align with the recently adopted Zoning Code and include context sensitive design standards and current best practices to better respond to the Township's built environment.



2.b. Land Development Case Studies

Ordered from West to East

- 1 1632 Old Gulph Road, Gladwyne
- 2 Bryn Mawr Village
- 3 111 W. Montgomery Avenue, Ardmore
- 4 65 Cricket Avenue, Ardmore
- 5 100 St. Georges Road, Ardmore
- 6 100 Coulter Avenue, Ardmore
- 7 225 E. Montgomery Avenue, Ardmore
- 8 110 Montgomery Avenue, Bala Cynwyd
- 9 306 Bala Avenue, Bala Cynwyd
- 10 1 Cynwyd Road, Bala Cynwyd
- 11 335 Righters Ferry Road, Bala Cynwyd
- 12 9 Presidential Boulevard, Bala Cynwyd

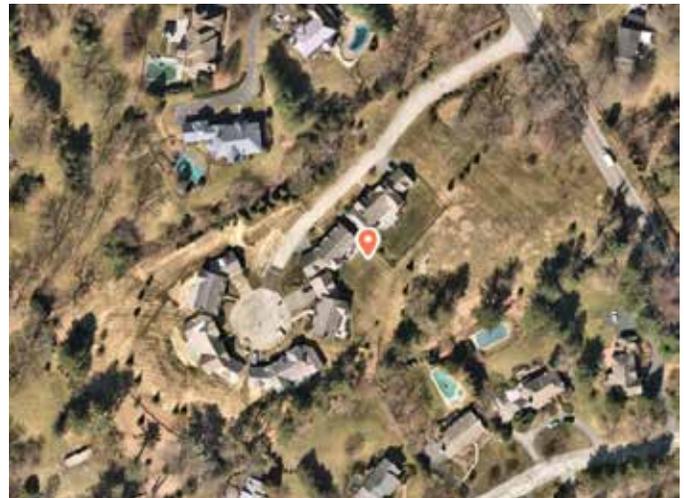
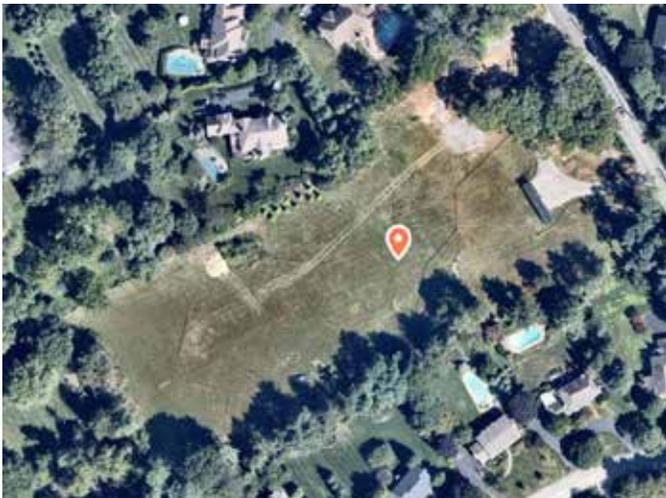


1632 Old Gulph Road, Gladwyne

The proposal included the subdivision of a 5.5-acre lot into six (6) new lots the construction of six (6) new single-family dwellings with attached garages to be accessed via a private road extending from Old Gulph Road. The approval included the ability to construct a detached garage for use of residents of the development, which has not been constructed. The development also includes two separate preservation areas containing 1.7 acres and 1.1 acres which constitute 51.2% of the net lot area.

Waivers Granted

- Natural Features Code: 101-9A to substitute evergreen trees for some of the required evergreen shrubs subject to the approval of Township staff.
- Subdivision & Land Development Code:
 - 135-27.F.4, to not offset the proposed road at least 125 feet from Mt. Moro Road.
 - 135-27.G to allow for a maximum grade of 5% within 50 feet of the intersection of the proposed road with Old Gulph Road.
 - 135-27E(4) to provide only a minimum clear sight triangle of 60 feet to the west of the new road.
 - 135-28A to defer the installation of a sidewalk along the proposed private road.
 - 135-28D to allow for the placement of Belgian block curb on only one side of the proposed roadway provided the road remains private and that the Township does not enter into a snow removal agreement for the development.
 - 135-27.F.4, to allow for a center line offset of less than 125 feet between the proposed road and Mt. Moro Road.





The preservation area contains mostly lawn area and appears to have been severely re-graded. The preservation area could have benefited from a reforestation plan.



The architecture of the structures varies and includes unique elements but given the scale of the buildings and how closely together they are sited very close, the result distracts from overall visual experience and intended quaint "English village" feel of the development.

SALDO Audit

| | |
|---|---|
| Shade Trees (135-30) | Trees along the cul de sac and private road do not appear to provide shade or desired canopy. |
| Planted Buffer (135-31) | The 50' required perimeter setback could provide a better visual screen of the development from adjacent residential uses. |
| Right-of-way and paving widths (§135-27.C.) | The width of the cul de sac seems excessive and detracts from the intended village feel. |
| Sidewalks and crosswalks (§135-28) | The proposal received a waiver to not install sidewalks along both New Gulph Road and to defer the installation of a sidewalk along the proposed private road. |
| Preservation Area (155-147.B.5) | A large portion of the Preservation Area is located along the edges of the property with shallow sections which breaks the continuity of the Preservation Area and increases the potential for encroachment into the preserved space. |
| Architecture/Scale | The design of the development was intended to be reminiscent of an English village, but the size of the structures, their proximity to one another, and lack of landscaping diminish from the intended goal. |

Bryn Mawr Village

907, 921, 931 W Lancaster Ave. & 24 N Merion Ave., Bryn Mawr

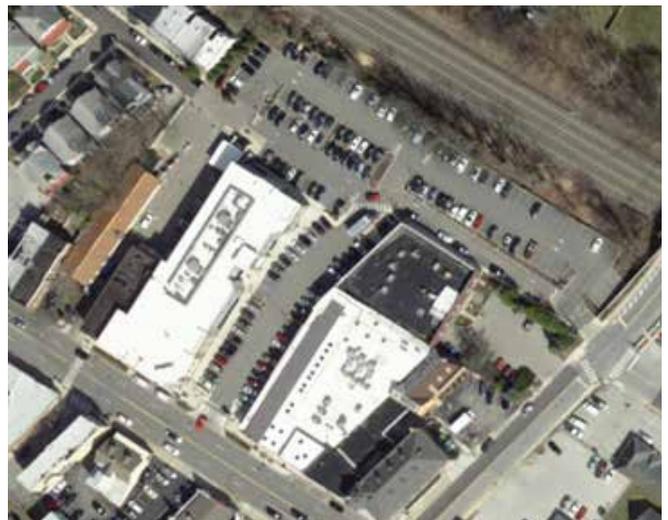
Demolition of two commercial buildings located at 24 N. Merion Avenue, demolition of a garage at 931 W. Lancaster Avenue, demolition of a garage at 921 W. Lancaster Avenue, demolition of a mixed use building located at 907 W. Lancaster Avenue, consolidation of 907 & 921 W. Lancaster Avenue and 24 N. Merion Avenue and a portion of 931 W. Lancaster Avenue, construction of a two-story mixed use building with a 17,123 square foot footprint at 921 W. Lancaster Avenue to contain a mix of retail and office uses, construction of a one-story addition at 907 W. Lancaster Avenue to connect to the existing commercial building at 921 W. Lancaster Avenue, relocation of the existing access driveway located at 921 W. Lancaster Avenue, construction of 176 on-site parking spaces to accommodate the proposed retail and office uses, and installation of a required 20' foot buffer along a portion of the northern project boundary.

Waivers Granted

- A waiver of Subdivision Code Section 135-35, Lots, to create an irregular lease line.



2010



2018



Streetscape with adaptively re-used structure



Sidewalk and street trees

SALDO Audit

| | |
|--|---|
| Tree protection (§135-25) | Not applicable |
| Street trees (§135-30) | New trees planted along Lancaster Avenue frontage |
| Greening standards (§135-41.4) | Compliance was required |
| Buffer landscaping (§101-9.A.; §155-3.10) | 20-foot buffer was installed along a portion of the northern project boundary as required in Bryn Mawr Village District standards |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | The perimeter of the parking lot was required to be bordered by planting areas of trees and shrubs since the parking lot exceeds 20,000 square feet |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | New crosswalks at all vehicular entries and within parking lot |
| Screening of equipment (§155-3.14) | Mechanical units were screened |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Benches and outdoor dining areas were provided |
| Architectural design standards (§155-3.9) | Subject to Bryn Mawr Village District Development Design Standards |
| Other notes | |

111 W. Montgomery Avenue, Ardmore

Demolition of the existing house and subdivision of the 12,530-square foot lot into two lots, construction of four units, with two, two-family semi-detached dwellings on each lot, construction of a 12-foot-wide common driveway off W. Montgomery Avenue to provide access to all units; and installation of an underground stormwater management system.

Waivers Granted

- Relief: Subdivision & Land Development Code Section 135-35.A.1, to permit the depth to width ratio of the proposed lots to exceed 2½ to 1.



2017



2021



Front elevation



Widened sidewalk and historic milestone preserved as required by condition

SALDO Audit

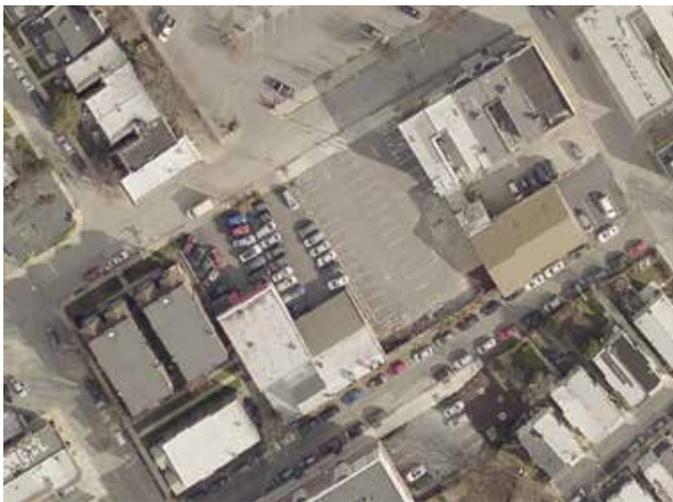
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|--|--|
| Tree protection (§135-25) | Not applicable |
| Street trees (§135-30) | Some plantings provided set back behind sidewalk. Narrow grass verge. |
| Greening standards (§135-41.4) | Not applicable |
| Buffer landscaping (§101-9.A.; §155-3.10) | Not applicable |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Common driveway with large rear parking area with guest spaces. |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | Sidewalk was widened compared to adjacent properties. |
| Screening of equipment (§155-3.14) | Mechanical units are mounted to side façade on driveway side, visible from public way. |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Not applicable |
| Architectural design standards (§155-3.9) | Each home is consistent in architectural style, porches provided. Garage doors are to the rear of the structure. |
| Other notes | Historic Lancaster Turnpike milestone preserved. |

65 Cricket Avenue, Ardmore

Demolition of a one-story building with a 7,077 square foot footprint currently being used as an auto-body shop, consolidation of the three existing parcels; and construction of a new, five-story mixed-use building with a 27,791 square foot footprint, containing 10,078 square feet of street level retail space and 77 apartments. The building contains one level of underground parking and one level of at-grade parking located behind the proposed retail space. All parking will be accessed from Trolley Way.

Waivers Granted

- A partial waiver of the Natural Features Code Section 101-9, to allow some of the required plant material to be planted off-site.
- A partial waiver of Stormwater Management Code Section 121-4.A.1 to not provide all of the required "during construction" stormwater management.



2017



2021



Looking north on Cricket Avenue



Street trees and sidewalk

SALDO Audit

| | |
|--|---|
| Tree protection (§135-25) | Not applicable |
| Street trees (§135-30) | Street trees were planted and sidewalks were installed to provide sufficient space for them |
| Greening standards (§135-41.4) | Not applicable |
| Buffer landscaping (§101-9.A.; §155-3.10) | Not applicable |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Not applicable |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | Sidewalks were consistent with the block including brick edging |
| Screening of equipment (§155-3.14) | Equipment on roof was screened and garage vents located on the rear (Trolley Way) elevation |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Benches and area for outdoor dining was provided |
| Architectural design standards (§155-3.9) | Exhibits materials and design features that comply with standards |
| Other notes | HARB reviewed the project extensively for compliance with the architectural character of the Ardmore Commercial Historic District |

100 St. Georges Road, Ardmore

Change of use from an Institutional Property to a Multi-family Development. Project included the demolition of the existing YMCA building and surface Parking Lot. Construction of a thirty-one (31) unit four story multi-family building with parking garage partially beneath the building for 64 parking spaces.

Waivers Granted

- NFC 101-5C(2b) to allow grading and building construction in slopes exceeding twenty-five percent
- SALDO 135-26 to exceed the 36 foot maximum width for curb cuts.



2015



2020



Current view of building



Public gathering space at the corner of the site

SALDO Audit

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| Tree protection (§135-25) | No existing vegetation was saved on the property. Was determined that most were in declining condition. |
| Street trees (§135-30) | Overhead wires were an issue with the placement and species selection. 19 streets were required. Applicant had them placed back, would have been beneficial to continue existing pattern along Montgomery Ave. Fence placement at ROW problematic. |
| Greening standards (§135-41.4) | Not Applicable in this R7 district. |
| Buffer landscaping (§101-9.A.; §155-3.10) | A twenty (20') buffer was required in the rear of the property. |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Not Applicable. Parking garage |
| Right-of-way and paving widths (§135-27.C.) | Not Applicable, no new Roadways |
| Sidewalks and crosswalks (§135-28) | Sidewalk was increased to six (6') feet in width and a crosswalk was added across St Georges Road |
| Screening of equipment (§155-3.14) | Generator Location (late addition to plan) was problematic. Increase buffering and location standards for the placement on the equipment would have been helpful. |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Small public gathering space at the corner of St. Georges Rd and Montgomery Ave, with three benches. |
| Architectural design standards (§155-3.9) | Not Applicable. Staff requested that the building's mass be deemphasized using projecting and recessed balconies, windows, and roof dormers. |
| Other notes | Waiver of 135-26 is a commonly requested waiver that should be updated. |

100 Coulter Avenue, Ardmore

Improvements to the existing Suburban Square shopping center, which included the addition of a four level Parking structure for 571 parking spaces along Coulter Avenue and Montgomery Avenue with 3,000 sf of retail space along Coulter Avenue. A two-story building along Coulter Avenue containing 20,000 sf retail and 20,00 sf of office on the second floor. A 3,884 sf addition to the rear of the existing Trader Joe's store for loading and additional storage. Relocation of some of the existing surface parking lot for Amtrak riders.

Waivers Granted

- 135-30: to not meet the minimum spacing for street trees.



New parking garage



New office/retail building

SALDO Audit

| | |
|--|--|
| Tree protection (§135-25) | Not Applicable |
| Street trees (§135-30) | Waiver requested for spacing, unsure reasoning, other than spacing was requested to meet the existing tree pattern. |
| Greening standards (§135-41.4) | Suburban Square does an excellent job with their greening on the center. The greening standards do not apply to this area. |
| Buffer landscaping (§101-9.A.; §155-3.10) | No buffer is required. Buffering was added along Montgomery Avenue and the new parking lot edge to soften the edge to the neighborhood. |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Landscaping was added to the Ruby's Lot, which historically did not have any interior trees to the large lot. This is a good addition to this surface parking lot. The interior parking lots was mostly existing and surface spaces were reduced due to the parking garage addition. |
| Right-of-way and paving widths (§135-27.C.) | Not Applicable |
| Sidewalks and crosswalks (§135-28) | Along Coulter two raised intersections/crosswalks were included in this development to improve the pedestrian presents along Coulter Avenue. Several new crosswalks were added. A hawk pedestrian signal was added to the crossing at Anderson Avenue to the Ruby's lot. |
| Screening of equipment (§155-3.14) | Not Applicable |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | The new development added several new public gathering spaces to the square. The one adjacent to the new building and the Logan Capital building is a nice addition for outdoor dining and gathering. The public space in front of the parking garage could have been improved with some pedestrian amenities added. |
| Architectural design standards (§155-3.9) | Required to meet the MUST standards, sought a Conditional Use to provide alternative architectural concepts to allow for the new architecture to match the existing construction, while also meeting the MUST goals. |
| Other notes | |

225 E. Montgomery Avenue, Ardmore

Proposal to develop a vacant 0.74 acre site with a total of 8 attached dwelling units with a central shared driveway. Additional improvements shown at the time of approval include a reconstructed sidewalk along the Montgomery Avenue frontage, underground stormwater management facilities, and a landscaped buffer.

Waivers Granted

- A waiver of Natural Features Code Section §101-5.C.2.b to disturb steep slopes 25% and greater.



2011



2021



Conforming architecture and front porches.



Narrow verge and buffer landscaping.

SALDO Audit

| | |
|--|--|
| Tree protection (§135-25) | Several trees were removed, including 5, 6" cedars, 12" maple, 31" maple, 20" maple, 2, 12" cherry, 22" maple, and more. |
| Street trees (§135-30) | Some trees provided – set back behind sidewalk. Narrow grass verge. |
| Greening standards (§135-41.4) | Not applicable |
| Buffer landscaping (§101-9.A.; §155-3.10) | Buffer at rear lot line appears to be four evergreen/cedar trees, a fence and long row of single evergreen species on the neighbor's side. Fence and plants/bushes along east side. Plants/bushes along west side. |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Common driveway provided to reduce the number of curb cuts |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | Sidewalk appears rebuilt along Montgomery Avenue. Smooth transition to existing sidewalk. |
| Screening of equipment (§155-3.14) | Some utility equipment is visible along the west and east sides of the units. |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Not applicable |
| Architectural design standards (§155-3.9) | Each home is consistent in architectural style, porches and/or decks provided. Garage doors are located along the common drive, partially screened with tree. |
| Other notes | In general, landscaping could use more color, height diversity and variation. |

110 Montgomery Avenue, Bala Cynwyd

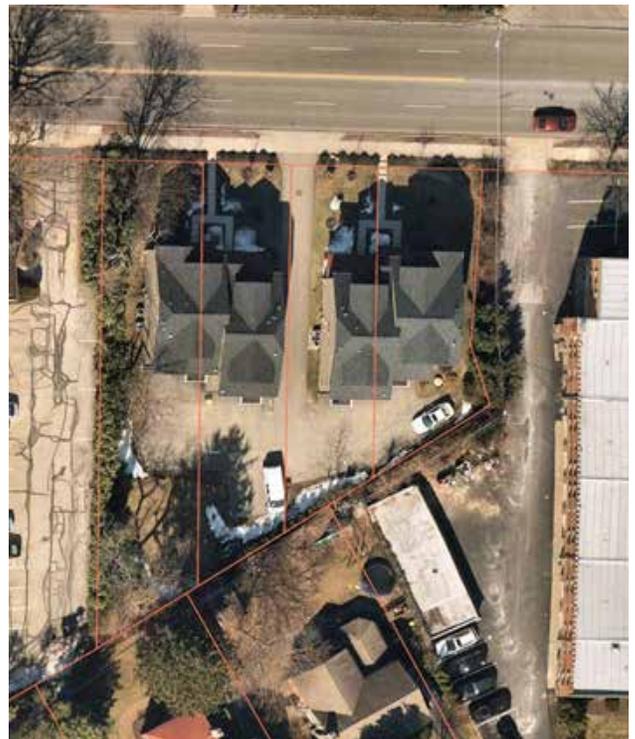
Demolition of the existing single family dwelling and the construction of four single family semi-detached dwellings with a common driveway to Montgomery Avenue.

Waivers Granted

- A waiver of SALDO §135-35 for lot depth to exceed more than 2.5 their width.
- A waiver of Streets & Sidewalk Code Section §135-15F to have depressed curb exceed maximum width of 36 feet.
- A waiver of Stormwater Management & Erosion Code Section §121-4.E.2c to allow seepage bed to empty in no more than 60 hours.



2011



2021



Conforming architecture and front porches.



Narrow verge and buffer landscaping.

SALDO Audit

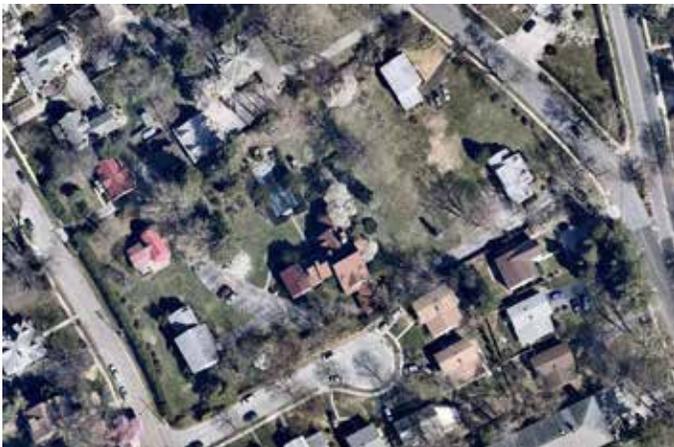
| | |
|--|---|
| Tree protection (§135-25) | Several large trees removed, including a 40" beech, 2 12" osage orange, 32" deciduous, 10" maple, 8" cherry, 12" sumac and a 6" maple. |
| Street trees (§135-30) | Some trees provided – set back behind sidewalk. Narrow grass verge. |
| Greening standards (§135-41.4) | Not applicable |
| Buffer landscaping (§101-9.A.; §155-3.10) | Buffer with rear lot line appears to be a long row of single species. Fence and plants/bushes along east side. Plants/bushes along west side. |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Common driveway provided to reduce the number of curb cuts |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | Sidewalk appears rebuilt along Montgomery Avenue. Smooth transition to existing sidewalk. |
| Screening of equipment (§155-3.14) | Some utility equipment is visible along the driveway. |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Not applicable |
| Architectural design standards (§155-3.9) | Each home is consistent in architectural style, porches provided. Garage doors are to the rear of the structure. |
| Other notes | In general, landscaping could use more color, height diversity and variation. |

306 Bala Avenue, Bala Cynwyd

Change of use from institutional to residential. Subdivide the existing 3.3-acre lot into eight lots; demolish five existing dwellings and an outbuilding, and construct seven single-family detached homes; existing manor house (Class II historic resource) remained.

Waivers Granted

- A waiver of SALDO §135-30 to not provide 3 of the required 19 street trees.
- A waiver of SALDO §135-35 to allow the property line between Lots 6 and 7 to not be perpendicular to the right-of-way.
- A waiver of Natural Features Code §101-5.C.2.b. to disturb slopes exceeding 25%.



2016



2020



Existing stone pillars, gates, and iron fencing preserved.



Street trees setback behind sidewalk instead of in verge. Utility equipment visible in front yards and on utility pole in verge.

SALDO Audit

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|--|--|
| Tree protection (§135-25) | Several large trees removed, including one 28-inch oak tree on Bala Avenue that was removed “to provide view to the historic home” |
| Street trees (§135-30) | Some trees provided – set back behind sidewalk. Why aren’t street trees located in deep verge? Three of the 19 required street trees were waived – were they provided elsewhere on-site? |
| Greening standards (§135-41.4) | Not applicable |
| Buffer landscaping (§101-9.A.; §155-3.10) | Buffer along Concord Circle and along western property line of Lot 5 appear to be long rows of a single species |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Common driveways provided reduced the number of curb cuts |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | Sidewalk rebuilt along Cynwyd Road with deep grass verge; ADA curb ramp at Concord Circle; Smooth transition provided to existing sidewalk on adjacent properties. Crosswalks not installed at Concord Circle or across Bala Avenue. |
| Screening of equipment (§155-3.14) | Some utility equipment is visible in the front yards and on utility poles in the verge |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Not applicable |
| Architectural design standards (§155-3.9) | Each home has a unique architectural style, porches provided; garage doors/driveways screened by stone walls |
| Other notes | Stone pillars, gates, and iron fence preserved along street frontages. Permeable paver walkways between homes and sidewalks. |

1 Cynwyd Road, Bala Cynwyd

The proposal included the demolition of all structures on the subject properties and consolidation of the existing five lots into one 47,441 sq. ft. lot. The construction included a five-story, 60-foot-tall building containing 74 apartments and 63 on-site parking spaces accessed from Cynwyd Road.

Waivers Granted

- ZHB: On June 22, 2017, in Appeal No. 4410, the applicant was granted a variance from Code §155-219 F(4)(e)[2] for an unobstructed walkway width of eight feet and a four-foot-wide paved strip and to instead install a 5.5-ft. wide walkway along the Union Avenue curb on the properties for the length of the proposed bridge wall from the curbline to the bridge walkway.
- Conditional Use approval to reduce the required 10 foot buffer along the railroad tracks. The plan contains 6,945 sq. ft. of retail space on the first floor. Per Zoning Code Section 155-219.C.9.b, a development that contains a commercial use that is located across the railroad tracks from a residentially zoned property is required to provide a 10-foot buffer. This property is across the railroad tracks from a property that is residentially zoned therefore a buffer was required.
- Stormwater Management and Erosion Control Code:
 - o 121-4E(2c) to not require the seepage beds to empty the entire storm volume in twenty-four (24) hours.
 - o 121-4.A, to only consider the site as meadow for the during construction rate control requirements of the 2 and 100 year storms.
- Natural Features Code
 - o 101-5C(2b) to disturb slopes exceeding twenty-five (25%) percent.



2016



2021



The upper levels of the building read as flat with flush mounted windows, a variety of material changes, and a lack of meaningful articulation.



The plaza space is centrally located at the intersection and provides an opportunity for outdoor dining or gathering adjacent to the commercial use.

SALDO Audit

| | |
|---|---|
| <p>Greening standards (§135-41.4)</p> | <p>-The plans show the greening standards being met through additional planting areas, raised planting beds, benches, plaza (seems like this is double counted)</p> <p>-Seat wall located along the frontage appears too high for comfortable seating.</p> |
| <p>Buffer landscaping (§101-9.A.; §155-3.10)</p> | <p>Project received CU approval to deviate from buffer requirements contained with the Zoning Code. Relief from standards in the SALDO, may have been more efficient process, given that the residentially zoned property that triggered the planting requirement is a commercial use.</p> |
| <p>Sidewalks and crosswalks (§135-28)</p> | <p>The proposal received a variance to deviate from the sidewalk width requirement given unique existing circumstances. Crosswalks were required but not yet installed, necessary to facilitate connection to the Township facilities located across Union Avenue. Maintenance of the crosswalk was not considered during LD and should have been.</p> |
| <p>Screening of equipment (§155-3.14)</p> | <p>Screening of utility meters from the public view.</p> |
| <p>Public gathering space (§155-4.3.C.(5); Table 6.6.5)</p> | <p>The plan shows a 3,764-sq. ft. plaza to meet the requirement for a PGS a minimum of 5% (or 2,372 sq. ft.) of the net lot area.</p> <p>-The PGS incorporates a rain garden per requirement. Given the anticipated use of the space, this may not be the best location for this feature.</p> <p>-The space does not appear to be activated given the commercial space has not been occupied. The moveable chairs and tables have not been installed.</p> |

335 Righters Ferry Road, Bala Cynwyd

A farmhouse constructed ca. 1695, which is a Class 2 Resource on the Township’s Historic Resource Inventory, is located on the 6.48-acre property. This infill project maintained the existing farmhouse and involved the construction of a five-story apartment building over a two level parking garage with the creation of a series of public gathering spaces totaling 33,389 square feet containing benches, bicycle parking spaces, a rain garden and a walking trail. The project also includes the installation of an eight-foot wide sidewalk along Righters Ferry Road and an eight-foot wide public multipurpose path on the southern (rear) side of the building.

Waivers Granted

- Natural Features Code:
 - 101-5.B.2 to disturb or remove vegetation occupying environmentally sensitive areas including slopes 15% and greater.
 - 101-5.C.2b to disturb slopes 25% and greater.
 - 101-9A to allow for substitutions within plant types.
 - 101-5B to allow a portion of the required compensatory trees to be 8'-10' tall evergreen trees.



2016



2021



Public gathering space is located in the interior of the site. Landscaping, benches and bicycle racks are provided in the vicinity of the barn ruins.



Miller Bell House: The core of this historic building dates to 1695, making it one of the ten oldest buildings in Lower Merion Township.

SALDO Audit

| | |
|--|---|
| Tree protection (§135-25) | 135-25.C. This lot which was forested was not protected under the Wooded Lot Overlay District due to the commercial zoning. |
| Street trees (§135-30) | The landscape verge and street trees will enhance pedestrian comfort along Righters Ferry Road. |
| Sidewalks and crosswalks (§135-28) | Combination of multipurpose path and pedestrianway. Total sidewalk width feels comfortable but it is unclear why there are two sides with different materials. Awkward transitions to existing, narrower sidewalks on adjacent properties. Belgian block banding along crosswalks across driveways missing. |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Two public gathering spaces are provided. The Official Map showed the public gathering space between the Class 2 historic resource and Righters Ferry Road. This area would have been accessible and visible from the roadway. The public gathering space was located along Righters Ferry Road and along an asphalt path on sloping land. Much of the public gathering space is not ADA accessible or visible from the street. |
| Architectural design standards (§155-3.9) | The building scale is massive. The City Avenue District was adopted to break up mega blocks and create a more pedestrian-friendly environment. |
| Other notes | Timing was a challenge with this project. Improvements were shown on the Official Map for a new road and a public multipurpose path extending out to Monument Road. An eight feet wide public multipurpose path was constructed on this site, but the adjacent developer elected not to provide the path and constructed a retaining wall and fence impinging the likelihood of the future extension of the path. |

9 Presidential Boulevard, Bala Cynwyd

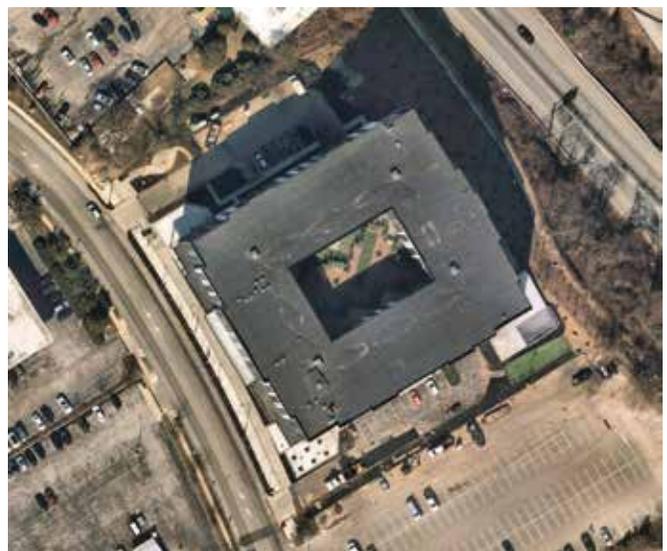
Change of use from office to mixed use. Demolish existing structures on the 2.74-acre site and construct a 4-story, 173-unit apartment building with 12,649 square feet of commercial space on the ground floor facing Presidential Boulevard. Parking is provided through a combination of surface, underground, and structured parking. Conditional use approval was granted to permit two driveway curb cuts.

Waivers Granted

- A waiver of Natural Features Code §101-5.C.2.b, to disturb slopes between 15 and 25% and slopes exceeding 25%.
- A waiver of Natural Features Code §101-9.A, to substitute evergreen shrubs for some of the required deciduous shrubs and to provide some of the required plant material off-site.
- A waiver of Stormwater Management Code §121-4.A.1.a .to not control the peak rate of runoff from the five-year post development condition to the two-year predevelopment condition.
- A waiver of Stormwater Management Code §121-4.E.2.c. to allow the stormwater management systems to drain within 48 hours instead of the required 24 hours.



2017



2021



Front façade appears flat and imposing with large metal structure.



Large utility cabinet visible from street in side yard near “Urban Garden” and “North Plaza Public Gathering Space.”

SALDO Audit

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|--|---|
| Tree protection (§135-25) | Few existing trees. Some trees removed from section of steep slopes. |
| Street trees (§135-30) | Street trees provided in six-foot landscape verge. Spacing feels appropriate. Trees appear healthy. |
| Greening standards (§135-41.4) | Not applicable |
| Buffer landscaping (§101-9.A.; §155-3.10) | Buffer along southern property line feels sparse. More vertical vegetation or a fence would be nice. |
| Parking lot landscaping and layout (§101-9.B.; §155-8.5; §155-8.6) | Conditional use approval granted for two driveways. Two-way driveways feel wide, but continuation of sidewalk paving and width of sidewalk makes it feel more comfortable. |
| Right-of-way and paving widths (§135-27.C.) | Not applicable |
| Sidewalks and crosswalks (§135-28) | Combination of multipurpose path and pedestrianway. Total sidewalk width feels comfortable but it is unclear why there are two sides with different materials. Awkward transitions to existing, narrower sidewalks on adjacent properties. Belgian block banding along crosswalks across driveways missing. |
| Screening of equipment (§155-3.14) | Large metal structure in side yard near “Urban Garden” – not shown on site plans. |
| Public gathering space (§155-4.3.C.(5); Table 6.6.5) | Cheap-looking furniture in southern parklet. Bike parking near parklet. Public art that was shown on site plans is missing. |
| Architectural design standards (§155-3.9) | Building materials appear flat. Windows are not inset. No roofline definition (e.g., cornice line). Metal balcony structure feels imposing along sidewalk. |
| Other notes | Unclear where to park to visit retail space. In general, landscaping could use more color and variation. |

2.c.

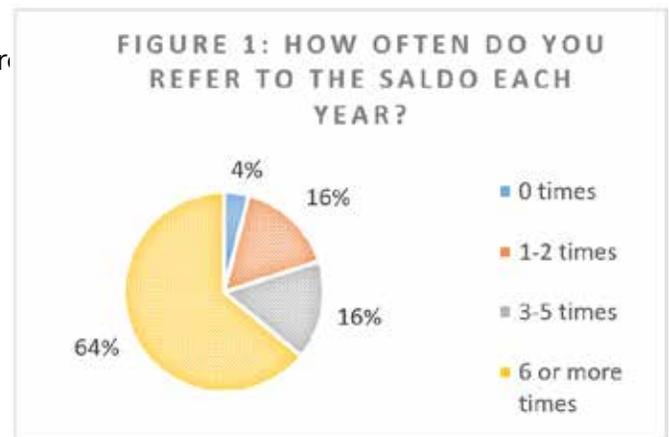
Subdivision & Land Development Code Survey Results

General Questions

A total of 25 survey responses were received between March 29 and May 10. The majority of respondents reference the township's Subdivision and Land Development Ordinance (SALDO) frequently (see Figure 1).

According to the respondents, the most frequently mentioned items are:

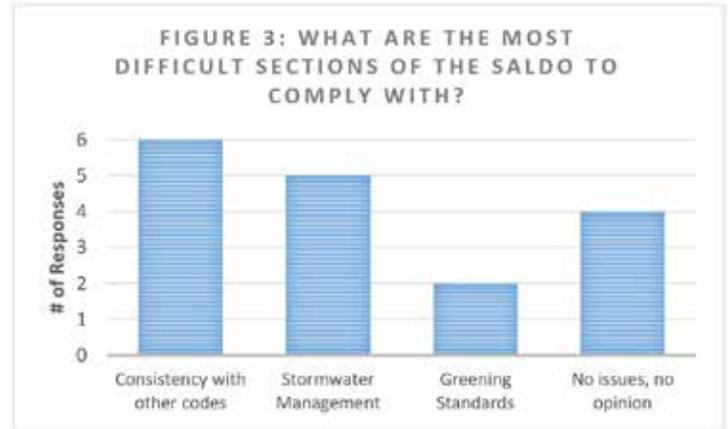
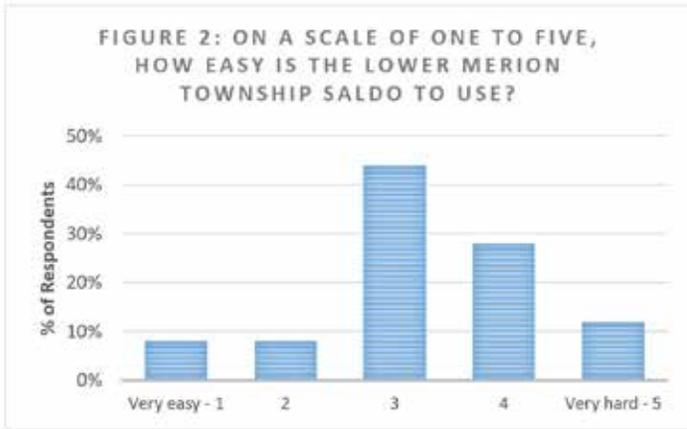
- Tree removal
- Shade trees
- Plan filing & process
- Stormwater management
- Buffers
- Greening standards



Feedback Questions

Several questions asked respondents for their feedback on the ease and efficacy of the township's current subdivision and land development approval process.

In terms of ease of use, 40% of respondents indicated that the SALDO is either "hard" or "very hard" to use. An additional 44% of respondents were neutral on this question (see Figure 2).



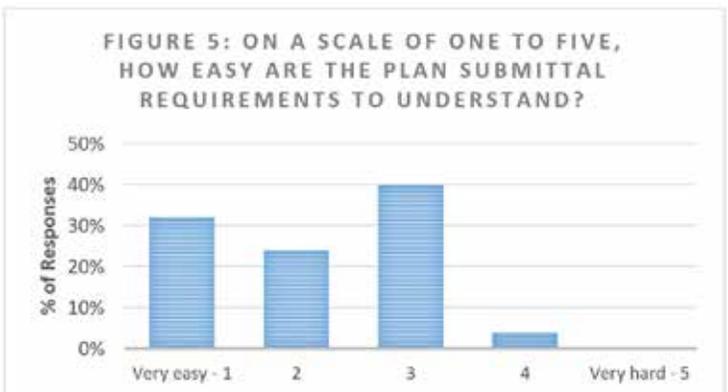
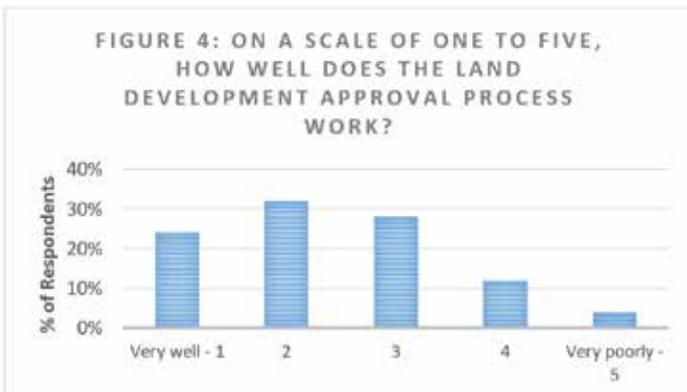
As a follow-up, respondents were asked which sections of the SALDO they thought were the most difficult to comply with (see Figure 3 and quotes below):

- “The greening standards are difficult to achieve from a practical stand point.”
- “The format and the tie into the Zoning Code is difficult to follow. Some restrictions are not “industry” standard.”
- “Irregular Lot Code. Many lots are already irregular.”
- “I do not find any of the sections difficult to comply with.”
- “Stormwater management because the requirement to consider existing sites as a meadow makes it very difficult to comply when actual existing conditions are developed.”

Respondents were also asked how well the current land development approval process works. 84% of respondents indicated that they felt the process works well or that they were neutral on this question (see Figure 4).

Respondents were then asked what could be improved:

- “Development needs to better advance the goals set out in the Township’s comprehensive plan.”
- “The planning commission and board are too hard on by-right projects that comply with township codes.”
- “The timing to complete each stage of the approval process could be made more clear so applicants better understand how long each approval phase may take.”
- “Staff is superb. The new code is not. Process--good. Substance--not so good.”
- “The process is quite lengthy. Sketch Plan submission alone takes months. There are [too] many Boards and too much Public interaction.”



Plan Submittal Questions

Respondents were also asked to indicate how easy the plan submittal requirements are to understand. 96% of respondents indicated that they felt the requirements were easy to understand or that they were neutral on this question (see Figure 5).

When asked which requirements may be onerous or outdated, specific feedback included:

- “The fact that we have so many staff and engineering comments on missing code required information leads me to believe that the code isn’t as clear as it could be.”
- “The inventory of existing features, natural and built should be provided at the outset. The current sketch seems repetitive, if there was an existing features inventory section, for built and natural features, it would be clearer.”
- “Thoroughness and completeness of plans vary considerably.”
- “Traffic impact studies for all land developments regardless of impact and where there is already a traffic impact fee in place. Historic Resource Impact studies for all properties on historic list regardless of impact - waiver procedure not helpful to address.”
- “Although important, response letters and highlighting plans can be cumbersome.”

Landscape and Buffer Standards Questions

Respondents had several different opinions regarding whether the amount of landscaping and buffering currently required is sufficient. Equal percentages of respondents indicated that “not enough landscaping is required” and “too much landscaping is required” (see Figure 6).

Specific feedback on improving the landscape and buffer standards included:

- “Buffering requirements have some ambiguity with different requirements based on existing views [...]. I would rather see a base requirement with provisions to use existing plant material to off-set the new plantings.”
- “Our natural forest is deciduous and we require too many coniferous foliage and we don’t require enough trees to replace what is being removed by development.”
- “Buffers need more species diversity and a maintenance plan [...]”
- “A ten foot buffer, while sometimes all that can be accomplished in more urban areas of the Township, is inadequate for plantings. Enlarge to at least 20 and in very tight situations, consider fences and walls.”
- “Update them to be realistic and consistent with what zoning allows [...]”
- “I am in favor of high quantities of replacement plantings, but think that smaller sizes could be appropriate in some cases and would support a fee in lieu.”

Respondents were asked whether they would prefer strict adherence to landscape standards (e.g., X trees per 12 parking spaces) or more performance-based standards (e.g., percentage canopy coverage over a parking area). The majority of respondents would prefer either performance-based standards or a combination of each type of standard (see Figure 7).

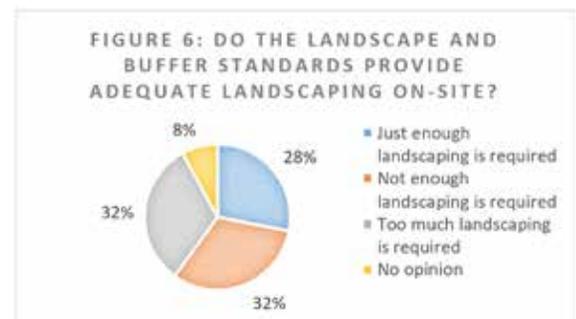


FIGURE 7: WOULD YOU PREFER STRICT ADHERENCE TO LANDSCAPE STANDARDS OR MORE PERFORMANCE-BASED STANDARDS?

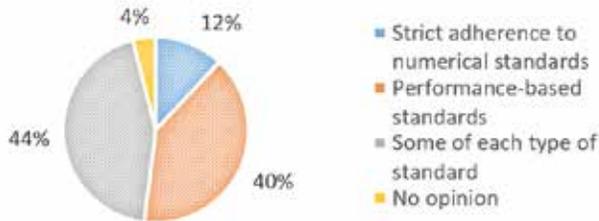
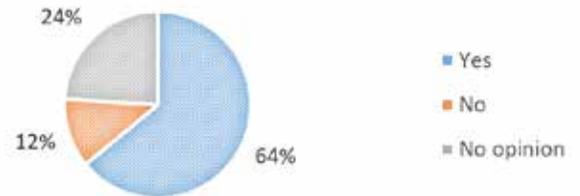


FIGURE 8: WOULD IT BE HELPFUL IF SOME OF THE DESIGN STANDARDS WERE MOVED FROM THE ZONING CODE TO THE SALDO?



Design Standards Questions

Survey respondents were asked if it would be helpful to move some of the design standards from the zoning code to the SALDO. 64% of respondents answered “yes” (see Figure 8).

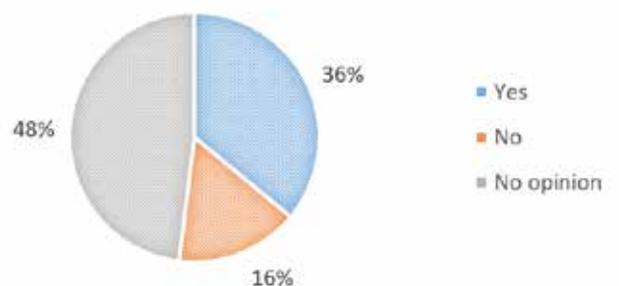
When asked which standards could be moved, respondents selected:

- Architectural design standards (14)
- Public gathering space design standards (13)
- Streetscape design standards (13)
- Parking and loading design standards (12)

Management Questions

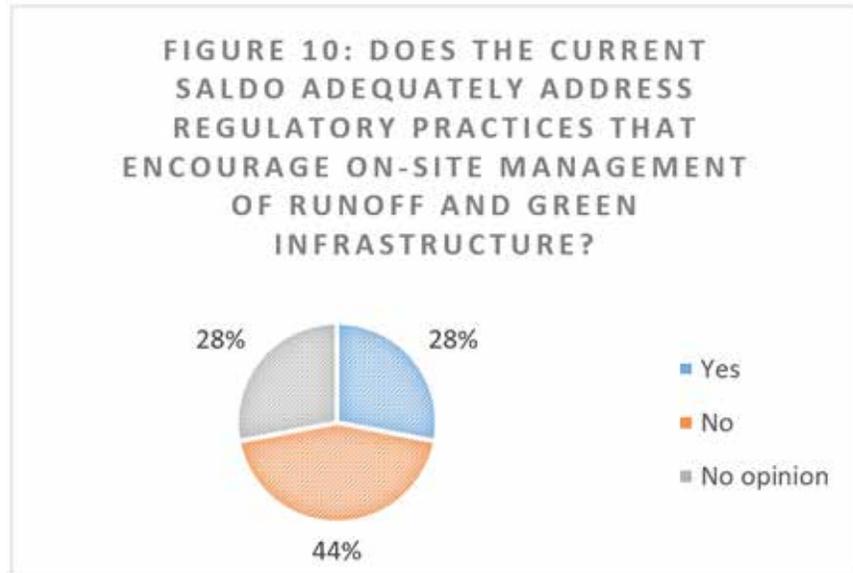
Respondents were then asked whether flexible standards in terms of numeric spacing, verge, and parking lot island requirements would encourage them to incorporate green stormwater management practices into their projects. Although 48% of respondents did not have an opinion, 36% indicated that this flexibility would encourage more green stormwater infrastructure (see Figure 9).

FIGURE 9: WOULD FLEXIBLE STANDARDS ENCOURAGE YOU TO INCORPORATE GREEN STORMWATER MANAGEMENT PRACTICES INTO PROJECTS?



Specific feedback included:

- “Flexible standards might enable more creative solutions as long as the standards are performance based.”
- “Having flexibility to put things above ground will always help for a more cohesive design.”
- “The requirements are too onerous (recharge increase in 25 year storm, back to meadow conditions) for any green infrastructure to have any practical benefit.”



Survey respondents were also asked whether the current SALDO adequately addresses, promotes, and incentivizes stormwater regulatory practices that increasingly encourage more on-site management of runoff and green stormwater infrastructure. Although 28% of respondents did not have an opinion, 44% felt that the current code does not adequately address this (see Figure 10).

General Feedback Received

- “When a wooded lot is sub-divided, the wooded lot requirements should apply to each of the sub-divisions. The wooded lot determination should not be calculated for each individual sub-lot.”
- “Wherever possible, preserving existing mature native vegetation should be prioritized. New plantings will always lag in environmental benefits provided.”
- “Green stormwater infrastructure (GSI) should be preferred or even required over “grey” infrastructure, not incentivized.”
- “State whether zoning or SALDO is more restrictive and must be resolved first.”
- “The Code should be more comprehensive, requiring consideration of present and future natural resource management and stewardship.”
- “Anything that the planning staff feels is critical to most developments should be codified.”
- “The lighting requirements would benefit from an update as well. It should at least include a reference to current IES guidelines and use current industry terminology.”
- “Need to match up with what zoning allows.”

(Intentionally Blank)

2.d.

Comprehensive Plan Recommendations for the Subdivision & Land Development Code

VISION FOR LOWER MERION TOWNSHIP

“Preserve Lower Merion’s classic residential neighborhoods, including the Township’s institutions, parks, and natural environment, and reinvest in the township’s village cores and commercial areas to improve walkability, expand transit use, and encourage design excellence.”

- *Comprehensive Plan, 2016*

Lower Merion Township adopted a new Comprehensive Plan in 2016 establishing a vision focused on preserving the elements that make the Township unique and great – building on the distinctive walkable villages clustered around commuter railway stations and conserving environmentally sensitive lands which contribute greatly to the area’s beauty.

A key recommendation of the Comprehensive Plan stated that the Subdivision and Land Development Code (SALDO) should be updated to better address infill and retrofit challenges. This chapter contains a summary of recommendations from the 2016 Lower Merion Township Comprehensive Plan for standards the SALDO could incorporate or enhance to advance vision and recommendations of the Township’s Comprehensive Plan and other adopted Township policies.

Complete Streets

The Comprehensive Plan adopts a Complete Streets approach and reorients the Township’s roadway planning priorities.

- C2.b. Utilize the Functional Classification of Roads Map to promote “complete streets” that safely and efficiently accommodate automobile traffic, bicycles, and pedestrians while also promoting community greening and stormwater management.

- C2.c. Develop Complete Streets Design Standards which can be implemented as individual projects or incrementally through smaller improvements or maintenance activities over time.
- C7.a. Utilize the Functional Classification of Roads Map to establish a framework for bicycle and pedestrian improvements within future public roadway and private land development improvements.
- C7.b. Prepare guidelines and incorporate design standards, including appropriate sidewalk width, and provision for utilities and street trees, into bicycle and pedestrian improvements to ensure that bicycle and pedestrian improvements are attractive, highly visible, and complement the desired high quality, small town character.

Context Sensitive Streetscape Design Standards (Non-Residential Development)

The Comprehensive Plan recommended that additional streetscape design standards be added for new non-residential developments, including additional standards for Main Street and Pedestrian-Oriented Focus Areas.

Relevant Comprehensive Plan Recommendations:

- C4.a. Implement the Functional Classification Map by modifying the Township Code to include the design treatments for Main Street Focus Areas (see Figure 3.7 to the right).
- C9.a. Implement pedestrian improvements within the Prioritized Pedestrian Improvement Map.
- C11.b. Develop appropriate standards for sidewalks and landscaped verges between the curb line and sidewalks in commercial areas.
- LC.7. Develop design standards to promote traditional Village/Downtown/Main Street character using the Ardmore Storefront Design Guidelines as a template.
- LC.10. Prepare Township-Wide Streetscape Standards for each commercial area typology. Require greening, bicycle, and pedestrian improvements with new development and work with private property owners and business associations to make such improvements to businesses not undergoing redevelopment.
- LC.24. Neighborhood Main Streets. Develop consistent architectural and streetscape standards for commercial districts with similar characteristics.
- LC.25. Neighborhood Main Streets. Incorporate streetscape standards into revised zoning [or SALDO]. Promote street trees, commercial greening, and landscaped setbacks.
- LC.47. Traditional Main Streets. Promote higher level of public greening in Traditional Main Street districts.

Context Sensitive Streetscape Design Standards (Residential Development on Arterial Roads)

The Comprehensive Plan shifted the prioritization for roadway improvements from single-occupant vehicles to ensuring that all modes of travel may be accommodated and placed more of an emphasis on walking and biking. A Prioritized Pedestrian Improvement Map in the [Circulation Element](#) shows where sidewalks should be required. Where a new residential development fronts on an arterial roadway, additional streetscape design standards should be applied.

Relevant Comprehensive Plan Recommendations:

- C9.a. Implement pedestrian improvements within the Prioritized Pedestrian Improvement Map.
- C11.a. Increase minimum sidewalk widths for new residential development. Establish minimum landscaped verge standards between the curb and the sidewalk to allow for the installation of street trees, right-of-way permitting.

One Less Trip Approach: Transportation Demand Management

Recognizing traffic congestion as a major concern of many residents a “one less trip” approach was taken in the Comprehensive Plan. Continuing to widen the roadway to accommodate heavy traffic volumes can negatively impact the character of the community and pedestrian safety at wide intersection crossings. In some cases widening is not practical along heavily developed corridors. In order to improve the flow of traffic the “one less trip” approach places an emphasis on providing for multiple modes of travel, such as walking and biking and supports programmatic changes to encourage residents to walk and bike to local trips and promotes the enhancement of available transit facilities. This approach requires the implementation of Transportation Demand Management measures to provide for all modes of transportation.

Relevant Comprehensive Plan Recommendations:

- C.2.b. Utilize the Functional Classification of Roads Map (Map C7) to promote “complete streets” that safely and efficiently accommodate automobile traffic, bicycles, and pedestrians while also promoting community greening and stormwater management.
- C.2.d. Promote a one less car trip approach to local transportation to promote transportation alternatives to vehicular trips through the Township.
- C.2.e. Work with the Lower Merion School District and local private schools to encourage more children to walk and bike to school. Develop and promote programs and incentives to encourage institutions and employers to implement innovative transportation programs encouraging bike sharing, carpooling, the increased use of mass transit, bicycling and/or walking.
- C.7. Promote walking and biking as equal modes of transportation for local trips within the Township to improve public health.
- C.8. Implement the prioritized plan for bicycle and pedestrian improvements to create a complete network around schools, community facilities, public transportation nodes and commercial centers.
- C.9. Work with Lower Merion School District (LMSD) and private educational institutions to maximize the number of students walking and biking to school to reduce unnecessary vehicular trips.
- C.10. Increase public education regarding benefits of sidewalks as well as homeowner responsibilities regarding installation and maintenance of sidewalks in the public right-of-way.
- C.11. Remove organizational barriers to sidewalk construction and bike lane installation and establish requirements to improve the pedestrian and bicycle environment.
- C.13. Require increased safe and accessible bicycle parking in commercial, institutional, and civic areas.

- C.14. Improve commuter access for all modes of transportation to reduce the number of transit users who drive to the station and provide ADA accommodations at transit stations and bus stops utilized by Township residents.
- C.15. Ensure that passenger amenities at bus and rail transportation facilities are safe and attractive.
- C.16. Actively advocate for continued service on all Amtrak and SEPTA rail lines, and the endangered Cynwyd Line, in particular.

Bus Stop Design Guidelines

The Township is well-served by transit. Eight bus lines run through Lower Merion Township serving thousands of riders each day, many of whom work, and live in the community. The bus lines run primarily along City Avenue, Lancaster Avenue, and Conshohocken State Road. Despite the high number of bus stops and riders few bus shelters are in place. The City Avenue District incentivizes transit facility improvements including bus shelters, but the Code does not include any design guidelines for these amenities. The Comprehensive Plan recognized that a well-designed bus shelter can enhance the attractiveness of a commercial area and improve ridership levels.

Relevant Comprehensive Plan Recommendations:

- C.15. Ensure that passenger amenities at bus and rail transportation facilities are safe and attractive.
- C.15.c. Seek funding for and promote attractive, high quality bus shelters in commercial areas. Incorporate SEPTA's Bus Stop Design Guidelines in design standards.

Green Parking Lot Standards

The Water Resources Element not only provides a plan for the reliable supply of safe drinking water; it also establishes a framework to promote the equitable management of stormwater on all properties within the Township.

Relevant Comprehensive Plan Recommendations:

- W6.a. Assess and amend Township codes, as needed, to improve stormwater management on existing, new, and redeveloped parking lots.

Buffer Planting Design Standards

Relevant Comprehensive Plan Recommendations:

- LC.1. Revised zoning should reflect existing commercial land use and provide appropriate controls for residential properties, such as appropriate buffers and design standards to ensure the orientation of commercial activities away from residences.

Update Greening Standards

Relevant Existing Ordinance Sections:

- §135-41.4. "Development which is required to meet greening standards shall comply with the following regulations..." [currently applies to new buildings and building additions in the BMV, VC, TC, RHR, and CAD zoning districts].
- LC.24. Neighborhood Main Streets. Develop consistent architectural and streetscape standards for commercial districts with similar characteristics.
- LC.25. Neighborhood Main Streets. Incorporate streetscape standards into revised zoning [or SALDO]. Promote street trees, commercial greening, and landscaped setbacks.
- LC.47. Traditional Main Streets. Promote higher level of public greening in Traditional Main Street districts.

Public Gathering Space Design Guidelines

Relevant Comprehensive Plan Recommendations:

Community Facilities & Services: Parks & Recreation Plan.

- Goal 4: Work in collaboration with Township planners on the redevelopment of the villages regarding parks and recreation to ensure that public recreation facilities, opportunities, and partnerships in management are incorporated into the improvements.
 - Recommendation d. Incorporate parks and recreation planning into planning for the City Avenue District.
 - Recommendation e. Ensure the effective implementation of the recreation provision in §135-50.1 of the Subdivision and Land Development Code of Lower Merion Township in order to establish and maintain meaningful recreation facilities.
- Land Use: Commercial
 - LC 13: Identify appropriate locations for permanent or seasonal civic space in all commercial areas and ensure that areas considered for public gathering space are appropriately landscaped.
 - LC26: Link commercial areas with nearby public spaces. Promote small scale gathering spaces such as outdoor dining on a lot-by-lot basis. Require shopping centers to include public gathering space. Promote seasonal use of unused parking for public gathering and special events.
 - LC67: Continue to refine the public gathering space standards and locations included in the zoning standards and on the Official Map to promote a functionally connected and unifying series of significant public gathering spaces. Identify locations for public actions/investments to complete the network.

Official Map

Relevant Comprehensive Plan Recommendations:

- C2.a Implement vehicular improvement projects identified on the Prioritized Vehicular Improvements Map, the City Avenue Official Map, and in commercial area/neighborhood master plans.
- C8.f Implement the City Avenue Official Map (Map C9), and update the map to extend the Cynwyd Heritage Trail from Cynwyd Station to Bala Station. Explore additional connections to the Cynwyd Heritage Trail at Union Avenue. Fully link the trails and public gathering spaces along the Cynwyd Heritage Trail and the Pencoyd Trail with trails and gathering spaces shown on the City Avenue Official Map.
- LR4.c Employ the Official Map to designate desired locations for future public open space.
- LI4.a Use the Official Map provisions of the Pennsylvania Municipalities Planning Code (MPC) to designate locations on appropriate institutional properties for future public facilities, including play fields.
- LC65 Recommendation Continue to refine the City Avenue District provisions and Official Map as necessary to ensure that future development is consistent with the established intent of the ordinance and desired land use and form of the district.
- LC66 Continue to refine the City Avenue District provisions and Official Map as necessary to ensure that future development is consistent with the established intent of the ordinance and desired land use and form of the district.
- LC67 Continue to refine the public gathering space standards and locations included in the zoning standards and on the Official Map to promote a functionally connected and unifying series of significant public gathering spaces. Identify locations for public actions/investments to complete the network.
- Open Space & Environmental Resource Protection Plan, 2005: Explore use of the Official Map to reserve future areas for recreation or open space use.

Recommendations of Supporting Planning Documents

Lower Merion Township Stormwater Management Plan

Recommended SALDO Updates Report, 2017

Prepared by: Amec Foster Wheeler

The purpose of this Report is to identify potential revisions to the Township's land use policy and regulations that could improve the design of stormwater management features proposed during the land development plan process. Key recommendations from the report are summarized below:

A cohesive set of municipal stormwater management regulations for land development integrates both stormwater quality and quantity management.

- The Township's policies must be aligned with the local drivers (regulatory, environmental, flood protection, etc.).
- Regulations should provide clear guidance to developers on standards for improvements.

- Every aspect of plan review, plan approval, construction inspection, and long-term stormwater facility operation and maintenance should be clearly stated.

Administration & Policy

- Consider consolidating requirements dictating the design process and minimum design standards into a single ordinance wherever possible. This could include relocating sections of the SALDO describing stormwater management design to the Stormwater Ordinance.
- The Township should remove duplicative standards to avoid the need to make revisions in multiple sections (compare stormwater pipeline design standards in §121-4.F.2 and §135-41.F) if standards change.
- Township ordinances currently require as-built drawings for telecommunications, sidewalks, floodplain development, and sanitary sewer extensions. The Township should establish a requirement for as-built CAD files for stormwater management features installed by developers and add them into their spatial database.
- SALDO (§135-41) requires the property deed to state the responsible party for maintaining the function of conveyances and stormwater controls. The Stormwater Ordinance also includes this provision and adds detail related to the contents of the maintenance plan (§121-4). Operations and maintenance standards for stormwater infrastructure, including GSI/LID should apply to approved land developments, as well as Minor Grading Permits and Runoff and Erosion Control Permits. Standards for the content of each agreement should specify activities necessary to maintain all features, including headwalls, underground conveyance, vegetation, energy dissipaters, and security fencing. The Township should:
 - Map each stormwater control;
 - Link the approved plan and agreement in the GIS;
 - Document schedules for inspection and maintenance; and
 - Document the Township's right of access.
- The Township could enable property owners to request de minimis exemptions from stormwater management when they meet certain conditions related to runoff rate or volume.

Design Process

- The SALDO offers a process for applicants to submit a tentative sketch plan, which is required for projects proposing greater than five acres of earth disturbance (§135-7). The Township should consider reducing the threshold at which sketch plans are required; or specify those areas of the Township that have high potential for managing stormwater upon which regional stormwater planning could be beneficial. When the process occurs early in the site planning process, ideally before the extent of grading and the site layout (buildings, pavement, and open spaces) are determined, the following benefits of a sketch plan process to promote GSI/LID elements could include:
 - Incorporation of a site's natural hydrologic features into the design;
 - Maximized use of GSI/LID practices, and potentially minimize the need for constructed drainage features to meet stormwater performance standards;

- Decreased need and cost for construction, materials, and long-term maintenance;
- Facilitated communication between the applicant the Township leading toward a more efficient plan review process;
- A forum to discuss potential variances to development standards requested by the applicant;
- An opportunity for the Township to negotiate improvements with the applicant (i.e. reduced parking for attending, reduced gross floor area ratios, etc.).
- Streamlined review could include use of pre-approved design details for small-scale stormwater controls or an expedited review period for land development plans. Projects could qualify for the streamlined review process if they exceed thresholds for required water quality volume treatment, sediment reduction, or increases to tree canopy. If the Township offers an expedited or preferential review process to applicants proposing specific GSI/LID elements or stormwater controls, the benefit to the applicant must be significant enough to induce action by the applicant.
- Applicants submitting a sketch plan shall describe areas to be set aside for stormwater management (§135-16.B). However, no standards are included on preferred locations for these controls. The Township should consider adding statements to encourage the installation of stormwater management infrastructure on areas of the site that are most conducive to infiltration, could help to manage off-site runoff, utilize green space, or avoid excessive grading. If there are specific areas the Township believes are well-suited for stormwater, these could be included on the Township's Official Map or listed in a design manual.

Parking & Transportation

- The Township establishes minimum street widths (§135-27), requires curbs on all streets except next to large lots with deep setbacks, and generally mandates that sidewalks are to be located as far as practicable from the curb (§135-28). The Township should consider amending these standards so that certain stormwater controls can be implemented within the right of way. Smaller paving widths, the ability to avoid construction of curbs, and standards for green space between the road and the sidewalk will allow for GSI/LID elements like vegetated swales and tree trenches to be installed in the public right of way, while also providing traffic calming and heat island reduction benefits. The Township should review existing right of way and street standards and prioritize opportunities for GSI/LID installation. If more GSI/LID features will be installed in the right of way, the Township should define if these features should be offered to the Township for dedication and the responsible party for on-going maintenance (Township, developer, PennDOT, county). Such technical guidance for GSI/LID design in the right of way could be included in a Township stormwater design manual (e.g. GSI/LID typical details including curb turnouts, bioretention bumpouts, etc.).
- Lower Merion includes its parking lot landscaping standards in the Natural Features Conservation Ordinance (§101-9.B). Standards include minimum sizes for parking islands and border area width. The Township should consider amending design standards to ensure landscaped areas associated with parking lots are large enough to accommodate GSI/LID and to promote the use of depressed landscaped areas and rain gardens so they can receive and treat stormwater.

3.

Summary of Key Findings and Recommended Changes to the Subdivision & Land Development Code

The assessment and analysis of Lower Merion Township's Subdivision and Land Development Code included:

1. Review of Base Documents: Township Codes, Pennsylvania Municipalities Planning Code, and the 2016 Lower Merion Township Comprehensive Plan as well as related planning studies were reviewed.
2. Analysis of the Current Provisions: This step involved a review of best practices employed by other communities, a review of recent land development case studies, an audit of the Subdivision and Land Development Code by the Pennsylvania Environmental Council to identify impediments to green stormwater infrastructure, and a review of survey results taken by local practitioners familiar with the standards of the Subdivision & Land Development Code.

Key findings are summarized below:

- The Subdivision and Land Development Code should be graphically rich and easy to use. The standards should align with the Zoning Code and other complementary chapters of the Township Code.
- The Township is uniquely positioned to shift roadway design prioritization from accommodating for vehicles only to providing for multiple modes of transportation. New standards should provide context sensitive design solutions.
- Greening standards should be synthesized with other chapters of the Township Code and enhanced to include current best management practices. Performance based standards should be included in the new Code.
- Recreation and community amenity standards should be strengthened to ensure that new development integrates visible and accessible civic amenities.

Summary of Recommendations:

On the following pages, each recommendation is summarized, relevant Comprehensive Plan sections and existing ordinance language is referenced, and local examples are shown.

1. Organization of New Subdivision and Land Development Code
2. Transportation
 - a. New: Complete Streets Standards and Diagrams
 - b. New: Context Sensitive Streetscape Design Standards
 - i. (Non-Residential Development)
 - ii. (Residential Development on Arterial Roads)
 - c. New: Soil Volume Standards (Street Trees along Public Roads)
 - d. New: TDM Ordinance
 - i. New: Bus Stop Design Guidelines
 - e. New: Electric Vehicle Charging Station Standards
3. Greening
 - a. Improve: Green Parking Lot Design Standards
 - b. Improve: Buffer Planting Design Standards
 - c. Improve: Greening Standards
4. Recreation & Community Amenities
 - a. New: Public Gathering Space Design Guidelines
 - b. Improve: Recreation Set-Aside/Fee-In-Lieu Standards
 - c. New: Official Map
5. Impact Study Requirements
6. Process: De Minimus Plans

3.a.

Organization of the New Subdivision and Land Development Code

The Subdivision and Land Development Code (SALDO) is a fundamental municipal planning tool to regulate land development activity and the design and layout of new streets and civic amenities. Section 503(1) of the Pennsylvania Municipalities Planning Code (MPC) broadly authorizes municipalities to establish provisions for the submittal and processing of plans, including review fees, plan specifications and provisions for preliminary and final plan approval. The MPC is flexible and recognizes that different approaches may be necessary to meet the individual needs of each community.

The new Subdivision and Land Development Code will incorporate form based elements with a focus on streetscape design and greening to align with the goals of the 2016 Lower Merion Township Comprehensive Plan and the recently adopted Zoning Code (2020). The new Code will be easy to navigate and follow the [Montgomery County Subdivision and Land Development Code Model Ordinance](#). A draft outline of the new Subdivision and Land Development Code is provided in this chapter.

Lower Merion Township: Updated Subdivision and Land Development Code Outline

Article 1: General Provisions

- 1.1. Title
- 1.2. Enactment
- 1.3. Contents
- 1.4. Purpose
- 1.5. Interpretation
- 1.6. Jurisdiction
- 1.7. Waiver of Requirements

Article 2: Definitions

- 2.1. Language Interpretations
- 2.2. Definition of Terms
- 2.3. Abbreviations

Article 3: Plan Filing, Processing, and Review

- 3.1. Applicability
- 3.2. Types of Plans
- 3.3. De Minimus Plan Requirements: NEW – POLICY QUESTION
 - a. Standards for Qualification as a De Minimus Plan Application
 - b. De Minimus Plan Information
- 3.4. De Minimus Plan Review Procedure
- 3.5. Sketch Plan Requirements
- 3.6. Sketch Plan Review Procedure
- 3.7. Preliminary Plan Requirements
 - a. Drafting Standards
 - b. Basic Information
 - c. Existing Features Plan
 - d. Proposed Features and Lotting Plan
- 3.8. Preliminary Plan Filing and Review Procedure
- 3.9. Final Plan Requirements
 - a. Improvement Construction Plan
 - b. Record Plan
 - c. Certifications
- 3.10. Final Plan Filing and Review Procedures
- 3.11. Recording the Final Plan
- 3.12. Resubmission
- 3.13. Excluded Land Developments
- 3.14. Other Approvals
- 3.15. Development Disclosure

Article 4: Design Standards

- 4.1. General Standards
- 4.2. Conformance with Plans
- 4.3. Site Organization
- 4.4. Lots
- 4.5. Blocks
- 4.6. Recreation and Community Amenities
 - a. Official Map: NEW – POLICY QUESTION
 - b. Public Gathering Space Standards: NEW – POLICY QUESTION
 - c. Recreation Land Dedication Criteria and Standards: EXPANDED APPLICATION – POLICY QUESTION
- 4.7. Preservation and Protection of Existing Vegetation
- 4.8. Preservation of Existing Structures and Historic Features
- 4.9. Complete Streets and Context Sensitive Design - NEW
 - a. Private Streets
 - b. Street Classification based on Functional Classification of Roads Map - NEW
 - c. Street Alignment
 - d. Street Intersection Design
 - e. Single-Access Street Standards
 - f. Curbing
 - g. Sidewalks and Border Areas
 - h. Crosswalks
 - i. Trails and Pathways
 - j. Bicycle Routes and Bicycle Lanes
 - k. Bus Stop Design Guidelines – NEW
 - l. Driveway Access
 - m. Parking and Loading
 - i. Electric Vehicle Charging Stations - NEW
 - n. Street Trees
 - i. Soil Volume Standards - NEW
- 4.10. Utilities
 - a. Bridges and Culverts
 - b. Water Supply
 - c. Wastewater Disposal
 - d. Solid Waste Management
 - e. Stormwater Management and Drainage

Article 5: Landscape Standards

- 5.1. Greening Standards - IMPROVE
- 5.2. Buffer Planting Design Guidelines - IMPROVE
- 5.3. Green Parking Lots - IMPROVE
- 5.4. Additional Plantings
- 5.5. Stormwater Basin and Natural Areas Planting
- 5.6. General Landscape Design Criteria

Article 6: Mobile Home Park Standards

Article 7: Improvement Construction Requirements

- 7.1. Applicability
- 7.2. Completion or Guarantee of Required Improvements
- 7.3. Financial Security
- 7.4. Release of Financial Security
- 7.5. Inspection of Work and Materials
- 7.6. Off-Site Improvements
- 7.7. Conditions of Acceptance
- 7.8. Guarantee of Completed Improvements
- 7.9. Private Maintenance of Improvements
- 7.10. Required Contracts

Article 8: Special Studies and Reports

- 8.1. Applicability
- 8.2. Traffic Impact Study
- 8.3. Stormwater Management Reports and Hydrologic Calculations
- 8.4. Groundwater Study
- 8.5. Historic and Cultural Resources
- 8.6. Environmental Impact Analysis
- 8.7. Impact Study Requirements – NEW – POLICY QUESTION
 - a. Market Analysis
 - b. Community and Fiscal Impact Analysis
- 8.8. Transportation Demand Management Plan: NEW – POLICY QUESTION

Article 9: Administration, Fees, and Enforcement

- 9.1. General Administration
- 9.2. Records
- 9.3. Fees and Costs
- 9.4. Waiver of Requirements
- 9.5. Enforcement

Article 10: Amendments, Validity, and Repealer

- 10.1. Amendment Procedure
- 10.2. Referral to Planning Commission
- 10.3. Validity
- 10.4. Repealer

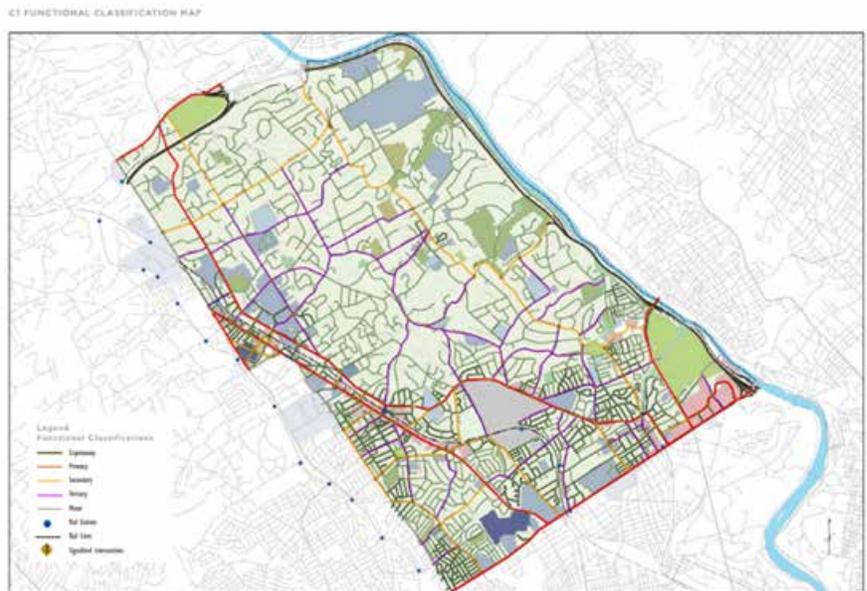
Article 11: Traffic Impact Fee

3.b.i.

Complete Streets

A Complete Streets approach breaks down the traditional separation between planning and designing for driving, transit, walking, and bicycling. Instead, it aims for an integrated, comprehensive transportation system that supports safe travel for people of all ages and abilities, whether walking, bicycling, using public transportation, or driving.

The 2016 Comprehensive Plan recognized that the Township Code and policies would need to be modified to reflect new transportation priorities and needs.



The new Subdivision and Land Development Code will incorporate “complete streets” standards for the Township’s streets based on the most up-to-date engineering standards, as well as the Functional Classification of Roads Map (Map C7: Comprehensive Plan).

Montgomery County’s walkability and bikeability plans, Walk Montco and Bike Montco, also provide helpful guidelines for design and dimensional standards to help make the Township’s streets more multi-modal.

These standards could also be illustrated in model street cross-section diagrams for each road classification.

| Functional Classification of Road | Minimum Right-of-Way Width | Minimum Cartway (Paving) Width | Number of Travel Lanes | On-Street Parking? | Verge | Pedestrian Amenities? | Bicycle Amenities |
|-----------------------------------|----------------------------|--------------------------------|------------------------|--------------------|------------|-------------------------------|--------------------------------|
| Primary Arterial | 80 ft. | 48 ft. | 2/2 | No | 3 ft. min. | Multi-use paths; width varies | Multi-use paths; width varies |
| Secondary Arterial | 60 ft. | 38 ft. | 1/1 | Yes (8 ft.) | 5 ft. min. | Sidewalk; 5 ft. min. | No |
| Tertiary Arterial | 60 ft. | 27 to 38 ft. | 1/1 | No | 3 ft. min. | Sidewalk; 5 ft. min. | Sharrows (14 ft. travel lanes) |
| Local Road | 50 ft. | 27 ft. | 1/1 | No | 3 ft. in. | Sidewalk; 5 ft. min. | Sharrows (13 ft. travel lanes) |
| Main Street Focus Area | Varies | Varies | 1-2/1-2 | Yes (8 ft.) | 3 ft. min. | Sidepath; 8 ft. min. | Sidepath; 8 ft. min. |

Additional Resources:

Walk Montco

- Sidewalk Location Guidelines by Type of Development (page 65)
- Montgomery County Trail Design Standards (page 67)

Bike Montco

- Recommended Facility Types for the Planned Bicycle Network (page 73)

Relevant Comprehensive Plan Recommendations:

The Comprehensive Plan adopts a Complete Streets approach and reorients the Township’s roadway planning priorities.

- C2.b. Utilize the Functional Classification of Roads Map to promote “complete streets” that safely and efficiently accommodate automobile traffic, bicycles, and pedestrians while also promoting community greening and stormwater management.
- C2.c. Develop Complete Streets Design Standards which can be implemented as individual projects or incrementally through smaller improvements or maintenance activities over time.
- C7.a. Utilize the Functional Classification of Roads Map to establish a framework for bicycle and pedestrian improvements within future public roadway and private land development improvements.
- C7.b. Prepare guidelines and incorporate design standards, including appropriate sidewalk width, and provision for utilities and street trees, into bicycle and pedestrian improvements to ensure that bicycle and pedestrian improvements are attractive, highly visible, and complement the desired high quality, small town character.

Relevant Existing Ordinance Sections:

- §135-27.A. "Streets shall be arranged in conformity with the Official Highway Map."
- §135-27.C.(1) "The minimum widths of the rights-of-way and the paving shall not be less than the following..." – Update table with recommended dimensional standards from comprehensive plan (see sample table on page 1).
- §135-28.A. "Sidewalks shall be provided along heavily traveled streets and at any location where the Board of Commissioners shall determine that sidewalks are necessary for public safety or convenience. [...] All sidewalks shall be a minimum of five feet wide, except as otherwise provided in Chapter 155, Zoning." – Update with more specific location and width requirements; reference Prioritized Pedestrian Improvement Map from township comprehensive plan
- §135-28.B. "Sidewalks shall be located in the shoulder strip of the right-of-way and as far from the curb as is practicable..." – This language seems to imply that a landscaped verge could be provided between the sidewalk and the curb, but it isn't clear.
- §135-28.C. "Crosswalks not less than 10 feet wide and with paving not less than four feet wide may be required where necessary to provide access to schools, churches, parks, and commercial areas..." – Strengthen crosswalk requirement (all signalized intersections?); expand list of walking destinations or reference Prioritized Pedestrian Improvement Map.
- §135-30. "Shade trees shall be installed on both sides of all streets [...] at a minimum spacing along each side of the street of 30 feet on center [...] at a minimum distance of six feet from the inside edge of the sidewalk or right-of-way line." – Current language may be too prescriptive; add language to allow street trees in landscaped verge between sidewalk and curb; provide flexibility in tree spacing; add standards for minimum planting area when within sidewalk area.

Local Examples:

[Upper Merion Township's SALDO](#) has standards for a landscaped/hardscaped verge with specific standards for tree pits and structural soil for street trees located in the paved hardscape verge.

[Cheltenham Township's SALDO](#) has a "Road Design Standards" table that includes bicycle lane width and verge areas. They also include typical cross-section diagrams to help illustrate the required sidewalk and verge areas.

Figure 4.2 Sidewalk and Verge Standards

| Zoning District | Verge | Sidewalk |
|--|-------|----------|
| Single Family Residential Districts (R1, R2, R3, R4 Districts) | 3' | 5' - 6' |
| All Other Base Zoning Districts | 4' | 5' - 8' |



Figure 4.8. Road Design Standards

| Functional Classification | Ultimate Right of Way ¹ | Number of Lanes ² | Travel Lane Width ³ | Left Turn Width | Paved Shoulder Width ⁴ | Parking Lane Width ⁵ | Bicycle Lane Width ⁶ | Verge Area ⁷ | |
|---------------------------|------------------------------------|--|--------------------------------|-----------------|-----------------------------------|---------------------------------|---------------------------------|---------------------------------------|---------------------------------------|
| | | | | | | | | Grass Strip | Sidewalk/ Pathways ⁸ |
| ARTERIALS | | | | | | | | | |
| Principal | 80'-100' | 4-6 | 12' | 11'-12' | 8'-10' | 8'-10' | 5'-6' | Provided in compliance with | Provided in compliance with |
| Minor | 80'-100' | 2-5 | 11' | 11'-12' | 8'-10' | 8'-10' | 5'-6' | | |
| COLLECTORS | | | | | | | | | |
| Major | 60'-80' | 2-3 | 10' | 10'-12' | 6'-10' | 8'' | 5'-6' | §260-415: Sidewalks and Verges | §260-415: Sidewalks and Verges |
| LOCAL ROADS | 50' | [Total Cartway Width 26 to 30 Feet] ⁹ | | | | | | | |

- 1) **Right-of-Way:** The right-of-way may be adjusted to accommodate highly urbanized and laterally restricted areas as well as unrestricted areas.
- 2) **Number of Lanes:** The number of lanes vary in order to accommodate the traffic volume, turning movements, and land capacity demand for selected level of service. This number does not include right-turn lanes where needed.
- 3) **Range of Lane Width:** Lane width is based upon minimum and desirable standards as well as other conditions such as being adjacent to a curb or the anticipation of heavy truck traffic.
- 4) **Shoulder:** Shall be provided when required by the Township. Shoulder width is based upon minimum and desirable standards as well as other conditions such as highly urbanized and laterally restricted areas, or the anticipation of heavy truck traffic. Wide shoulders may function as bike lanes.
- 5) **Parking Lane:** Parking lane width is based upon minimum and desirable standards as well as other conditions such as lot size, intensity of development, or potential for use as a traffic lane where required by future demand. For principal arterials, parking lanes are only recommended in highly developed areas.
- 6) **Bicycle Lane:** Shall be provided when required by the Township. A portion of a roadway that has been designated by striping, signing, or pavement markings for the preferential or exclusive use of bicyclists. Width specifications must be in accordance with FHWA / AASHTO standards. Refer also to Chapter 4 of this plan, Bicycle Mobility. Wide shoulders may function as bike lanes.
- 7) **Verge Area:** The presence of curbing, grass planter strips and sidewalks will depend upon adjacent land uses and site conditions, according to **§260-415: Sidewalks and Verges**
- 8) **Sidewalks/ Pathway:** Sidewalk width is based upon minimum desirable standards for use along each particular roadway, according to **§260-415: Sidewalks and Verges**
- 9) **Cartway Width:** For local roads, the total cartway width generally includes travel lanes, parking lanes, and/or shoulders.

- Cheltenham requires crosswalks at all street intersections and all driveway crossings with the option for the Board of Commissioners to require one or more additional measures (e.g., textured crosswalks, pedestrian signalization, curb bulb-outs, raised speed table crosswalks) to enhance the crosswalk if it is at a principal or minor arterial or major collector street.
- Cheltenham requires street trees along all existing streets, proposed public or private streets, access driveways that serve five or more residential units or two or more non-residential properties or uses, and major walkways through parking lots and between non-residential buildings.

3.b.ii.

Context Sensitive Streetscape Design Standards

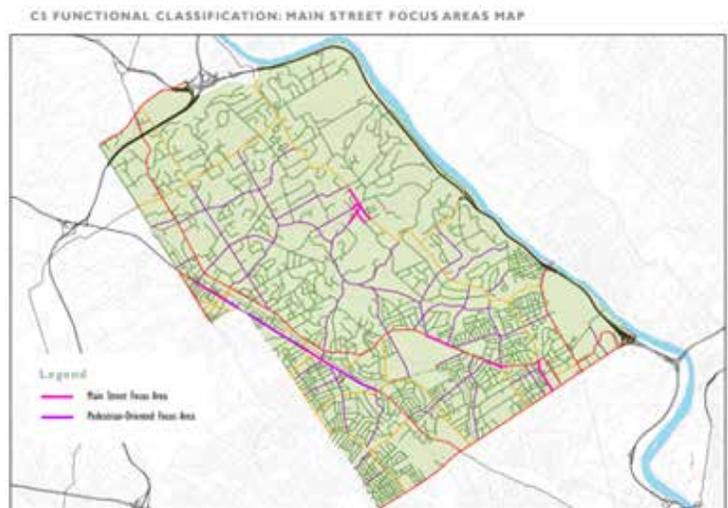
1. Non-Residential Development

The Comprehensive Plan recommended that additional streetscape design standards be added for new non-residential developments, including additional standards for Main Street and Pedestrian-Oriented Focus Areas (see Map C5 in the Township's comprehensive plan). Applying the same dimensional and streetscape design standards to all Main Street and Pedestrian-Oriented Focus Areas may not be appropriate.

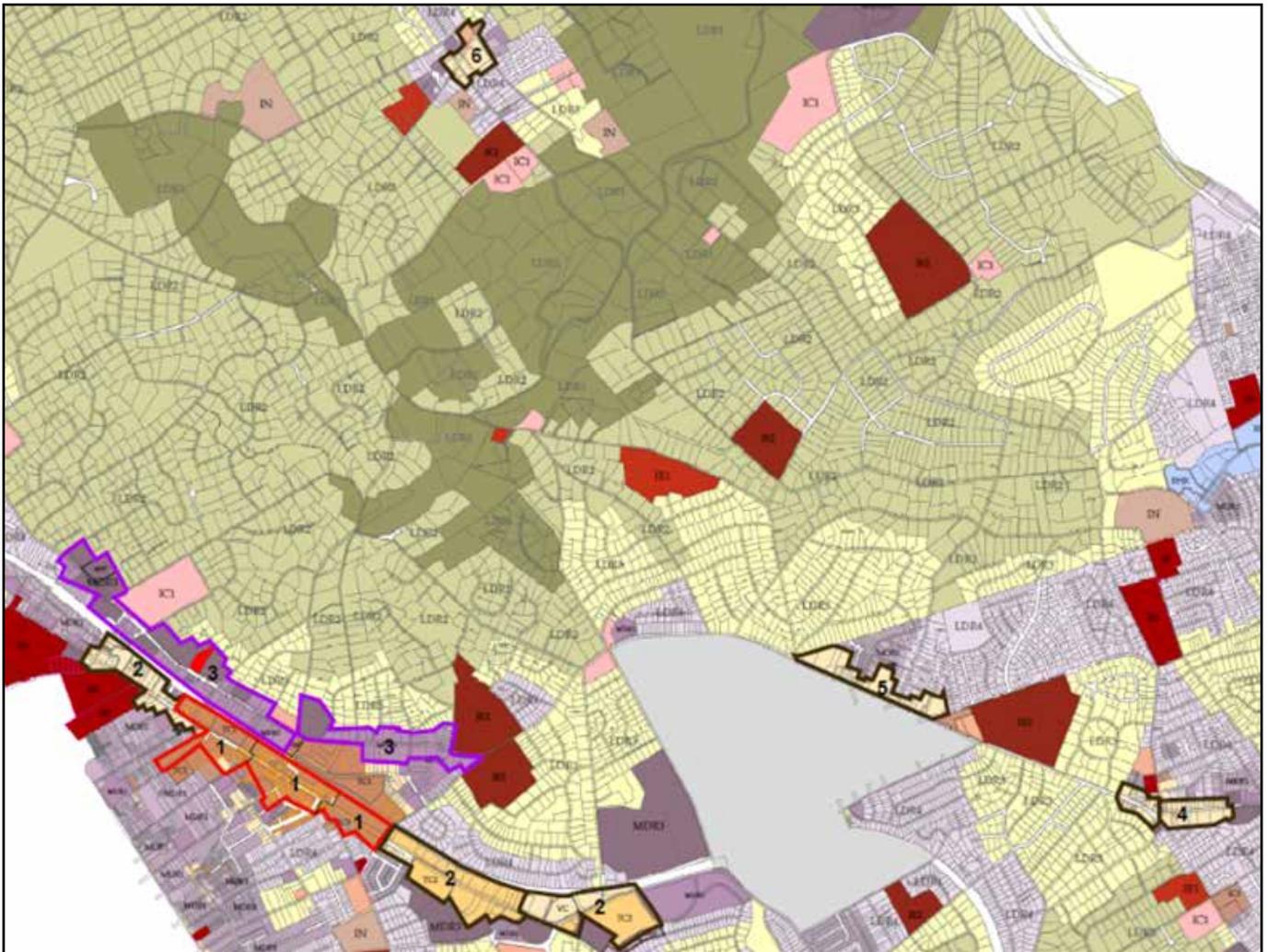
Streetscape design elements that could be modified for each context include:

- Street trees
- Other landscaping
- Hardscape (sidewalk, paving)
- Lighting
- Street furniture (benches, planters, trash cans, signage)

Using cross-section diagrams could be helpful to display these streetscape design elements for each area, based on the existing environment.



Areas to Consider for Context-Sensitive Streetscape Design Standards:



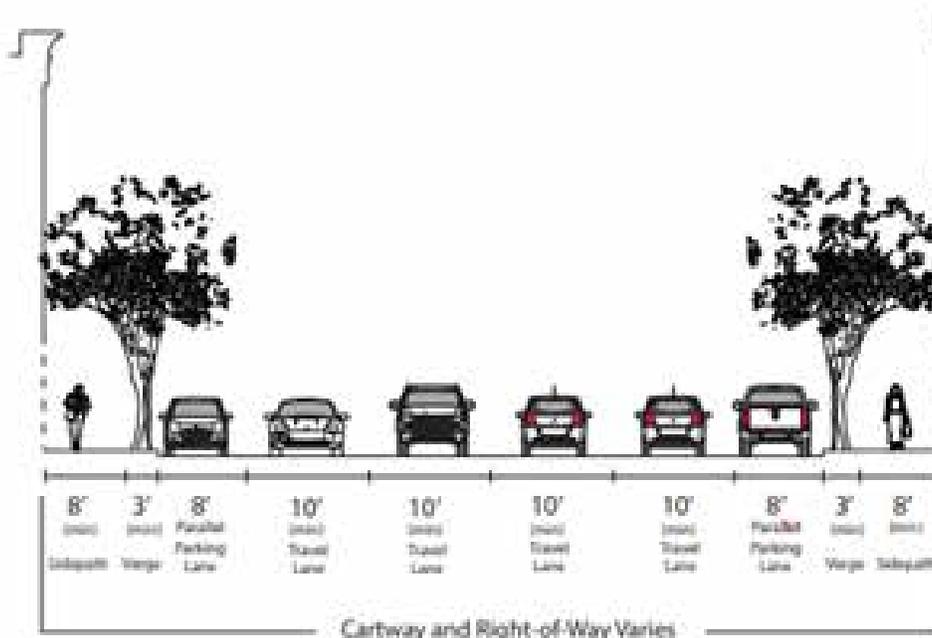
Relevant Comprehensive Plan Recommendations:

- C4.a. Implement the Functional Classification Map by modifying the Township Code to include the design treatments for Main Street Focus Areas (see Figure 3.7 to the right).
- C9.a. Implement pedestrian improvements within the Prioritized Pedestrian Improvement Map.
- C11.b. Develop appropriate standards for sidewalks and landscaped verges between the curb line and sidewalks in commercial areas.
- LC.7. Develop design standards to promote traditional Village/Downtown/Main Street character using the Ardmore Storefront Design Guidelines as a template.
- LC.10. Prepare Township-Wide Streetscape Standards for each commercial area typology. Require greening, bicycle, and pedestrian improvements with new development and work with private property owners and business associations to make such improvements to businesses not undergoing redevelopment.
- LC.24. Neighborhood Main Streets. Develop consistent architectural and streetscape standards for commercial districts with similar characteristics.
- LC.25. Neighborhood Main Streets. Incorporate streetscape standards into revised zoning [or SALDO]. Promote street trees, commercial greening, and landscaped setbacks.
- LC.47. Traditional Main Streets. Promote higher level of public greening in Traditional Main Street districts.

Relevant Existing Ordinance Sections:

- See Complete Streets recommendation above.
- §135-34.A. "Alleys shall be provided in commercial districts as specified in Chapter 155, Zoning, to provide access to off-street parking and loading and unloading facilities."

FIGURE 3.7 MAIN STREET FOCUS AREAS



2. Residential Development on Arterial Roads

Similar to the non-residential streetscape design standards, incorporating additional streetscape design standards for new residential developments would also help advance the township's comprehensive plan. In particular, sidewalks should be required within the areas highlighted on the Prioritized Pedestrian Improvement Map (see Map C16 in the township's comprehensive plan). Where a new residential development fronts on an arterial roadway, additional streetscape design standards should be applied.

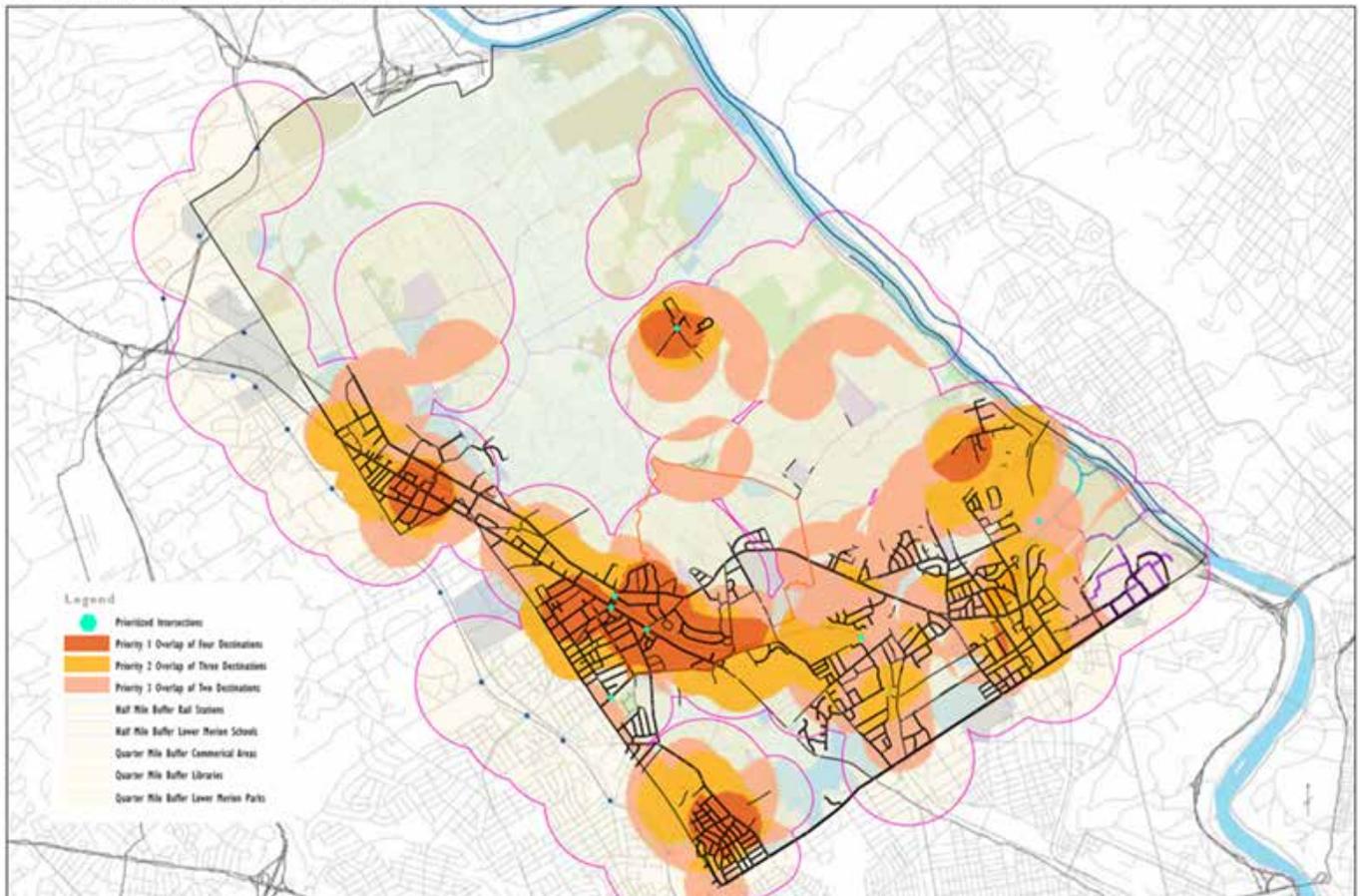
Relevant Comprehensive Plan Recommendations:

- C9.a. Implement pedestrian improvements within the Prioritized Pedestrian Improvement Map.
- C11.a. Increase minimum sidewalk widths for new residential development. Establish minimum landscaped verge standards between the curb and the sidewalk to allow for the installation of street trees, right-of-way permitting.

Relevant Existing Ordinance Sections:

- See Recommendations 1 and 2 above.
- §135-34.A. "Alleys in residence districts will not be approved in the absence of special conditions requiring them." – Loosen language to allow alleys in residential areas?

C16 PRIORITIZED PEDESTRIAN IMPROVEMENT MAP



3.b.iii.

Street Trees: Add Soil Volume/ Structural Soil Standards

Street trees provide several benefits to the community by softening and beautifying roadway corridors, creating a canopy to mitigate heat impacts of pavement, providing shade, and improving pedestrian safety. The Subdivision and Land Development Code requires shade trees to be located on both sides of all streets at a minimum spacing of the street of 30 feet on center. Providing for shade trees along roadways also requires the consideration of appropriate planting standards to ensure the long-term health and viability of the trees. It is recommended that the new Subdivision and Land Development Code incorporate standards such as soil volume, soil composition, and structural soil standards.

- To decrease the biotic and abiotic stresses on urban street trees by allowing for root growth & aeration of the root zone.
- To reduce soil compaction.
- To use improved technologies for improving site limitations to improve plant root growth and development.

Staff is recommending the following elements be included in the new SALDO Code:

1. Tree Pit Dimensions for Soil Volume
2. Suspended Pavements / Floating sidewalks
3. Structural Soils
4. Soil Cells

1. Tree Pit Dimensions for Soil Volume

How do we determine the amount of soil volume?

The standard street tree pit sizes vary. Tree pits should be as large as possible to allow for ample growing space for the tree's roots and to reduce the likelihood of future sidewalk lifting. The

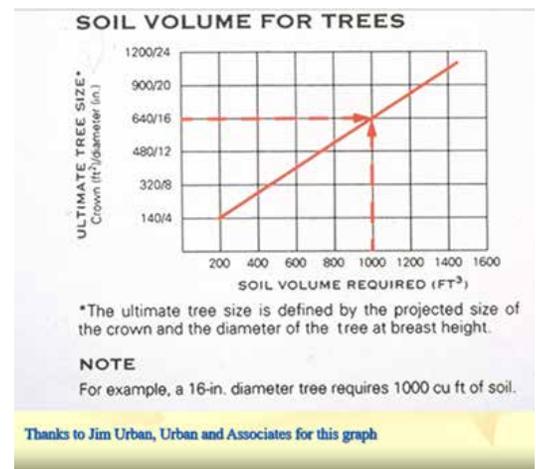
overall width of a sidewalk can limit the size of a tree pit. The installation of continuous tree pits should be encouraged whenever possible, and design proposals that call for continuous tree pits may be given more flexible spacing requirements.

Research at Cornell’s Urban Horticulture Institute (UHI) has shown that a reasonable ‘rule of thumb’ for most of the United States, except for the desert southwest, is to plan for two cubic feet of soil per every square foot of crown projection for the site of a tree pit. The standards are noted as follows:

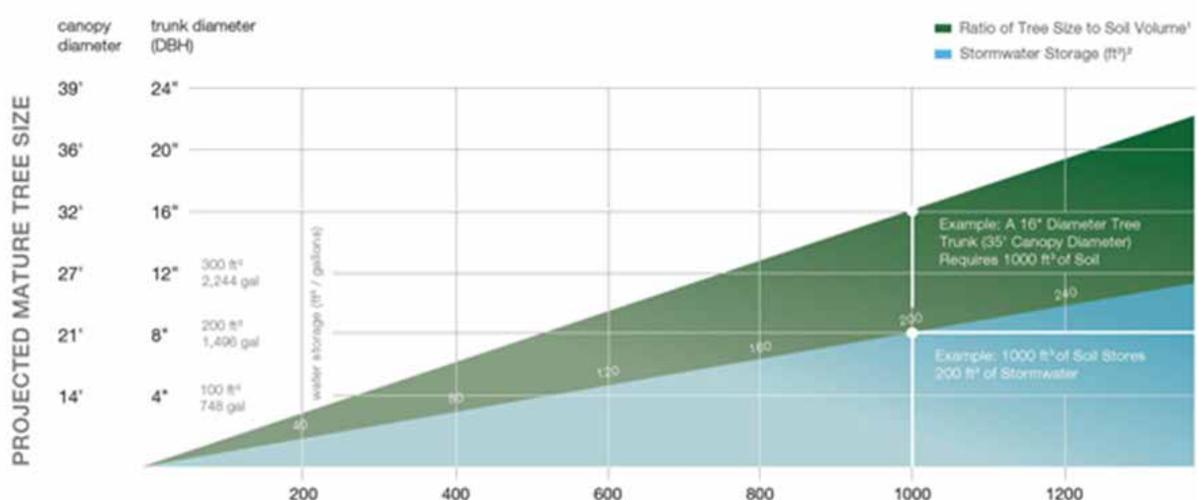
The crown projection is the area under the drip line of the tree. If the tree canopy is viewed as symmetrical, the crown projection can be calculated as the area of a circle (πr^2).

For example: for a tree with a canopy diameter of 20 feet, the crown projection would be, 3.14×10^2 , or $3.14 (100) = 314$ square feet. Using the ‘rule of thumb,’ an estimate can be calculated that a tree with a 20-foot crown diameter needs approximately 600 cubic feet of soil to support it. Assuming a useable rooting depth of 3 feet, one way of dimensioning the space needed for this tree would be 20’ x 10’ x 3’, or 600 cubic feet.

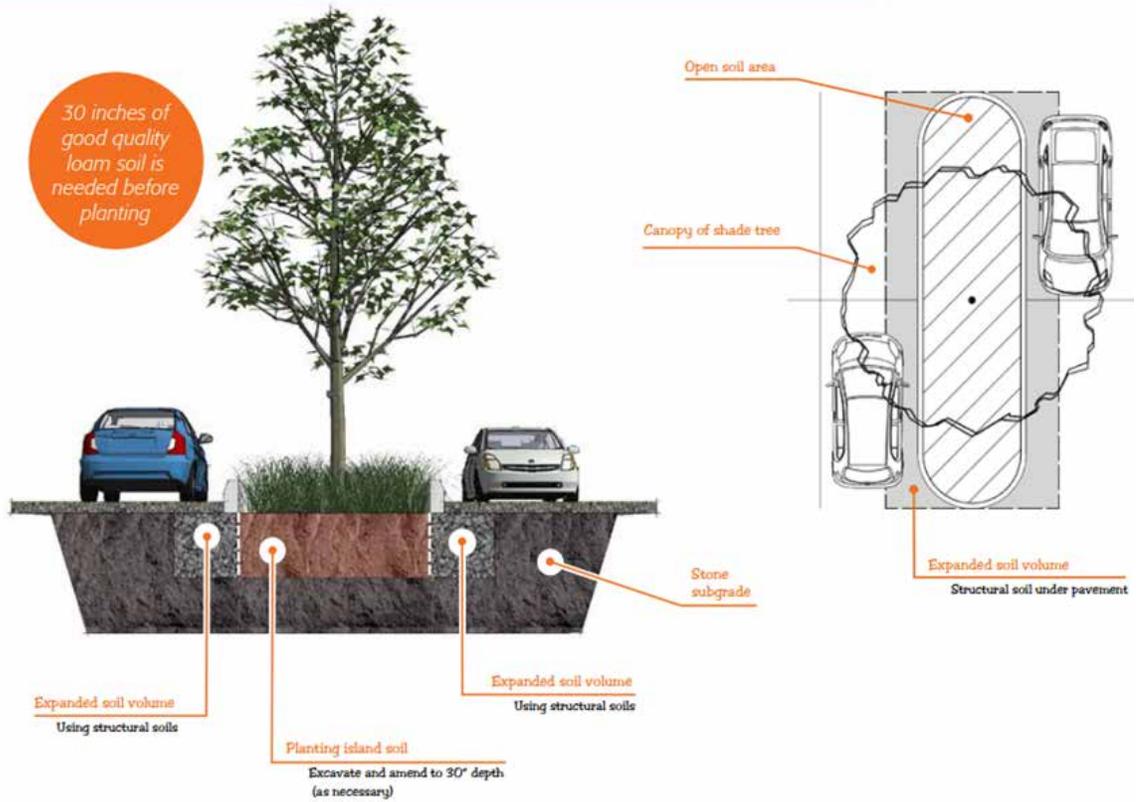
- The same calculations should also be used for fastigate and narrow tree cultivars. It is best to decide on the intended mature size of the tree and determine what the crown projection of its nonfastigate counterpart.
- Typical soil volume is measured to a depth of 3 feet. If structural soils are use, the soil volume should be increased by a multiplier of 1.3 to 5 for the portion of soil that is structural soil (this multiplier seems to vary quite a bit in the literature). Since structural soils are 80 percent stone the best answer is probably closer to 5.



HOW MUCH SOIL TO GROW A BIG TREE?



TREE PLANTING ISLANDS: PROMOTE EFFECTIVE TREE GROWTH WITH EXPANDED SOIL VOLUME



20 Montgomery County Planning Commission www.montcopa.org/planning

2. Suspended Pavements / Floating Sidewalks

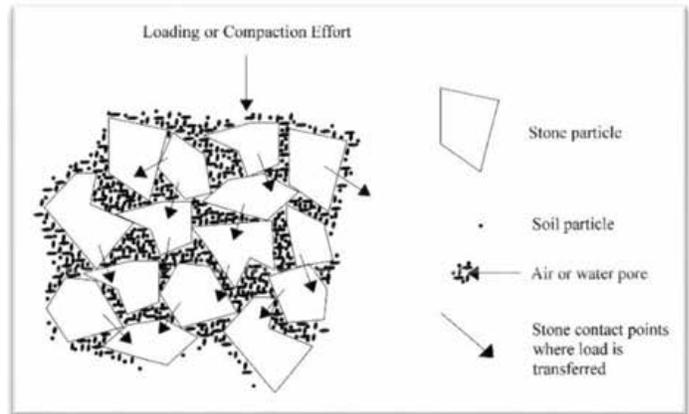
What are suspended pavements and floating sidewalks?

Suspended pavement or cantilevered sidewalks is a general term for any technology that supports the weight of paving and creates a subsurface void space that is filled with soil for root growth. The soil that is used to fill the system can either be native, from the excavation area itself (if appropriate), or a specified mix. In this respect, suspended pavements are essentially soil-delivery systems, creating a rooting area composed of lightly compacted, high-quality soils for tree roots in cities and other heavily paved environments. In addition to aiding urban tree growth, the soil can also be used for on-site stormwater management, maintaining pre-development hydrology, minimizing non-point source pollution and flooding, and recharging watersheds. Suspended pavements are low-impact development design solutions for the long-term co-existence of trees and streets, parking lots/lanes, roofs, promenades, plazas, green walls, and light-rail platforms.

3. Structural Soils

What are structural soils?

Typically, structural soil is made up of 80% crushed stone and 20% soil/organic matter which coats the rock, compacted to 95% proctor density, and 003% hydrogel. (defined according to specifications of Cornell University publications for CU Structural Soil). This mixture can be compacted to support pavement and still allow for space for a tree's root growth. The compacted rock or gravel provides approximately 30% void space for soil/organic matter, which remains uncompacted as the compaction force and surface load is transferred throughout the stone. Tree roots can then successfully grow and gather the needed water and nutrients in the soil-filled voids.



The use of structural soils should be considered where appropriate. Trees should not be planted directly in structural soil, and structural soil is only to be used as a base material under hard surfaces such as concrete, permeable pavement, or permeable pavers. Exposed soil or grass covered surfaces should be excavated and replaced with fresh topsoil.

(Image on the left shows a close up of a tree being planted in structural soil.)

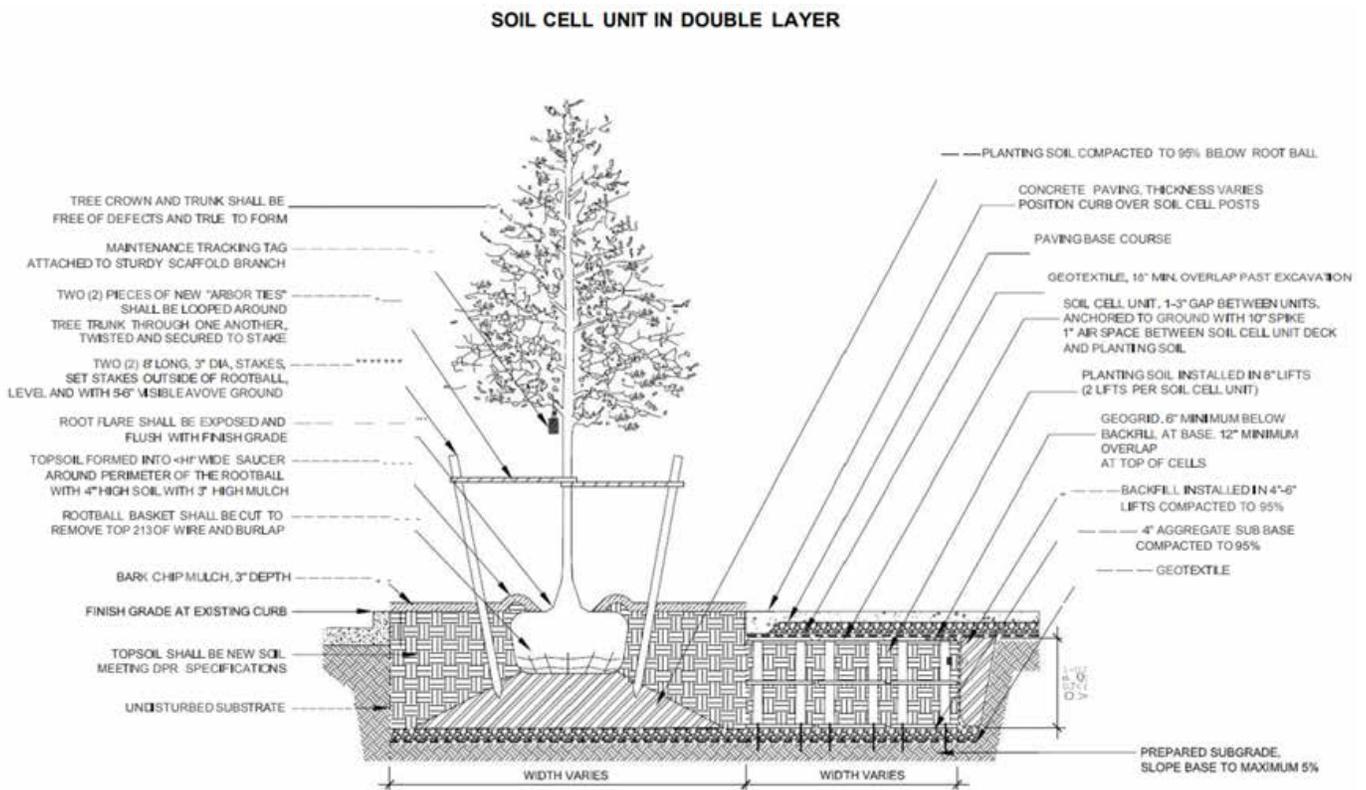


This image illustrates the difference between the root system of two trees after 3 years. The root system from the tree on the left shows a tree grown in structural soil. The root system from the tree system on the right shows a tree grown in regular compacted soil.

4. Soil Cells

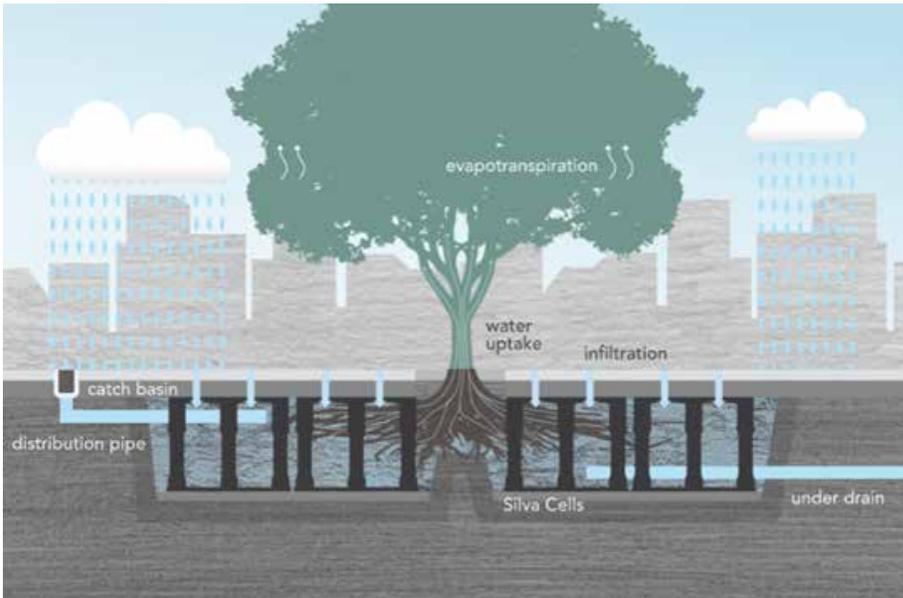
What are soil cells?

Soil cells are stackable, load bearing, units of various heights and shapes. Installed during construction, soil cells promote tree root growth in the soil matrix increasing the health and longevity of trees. Root space are load-bearing modules that clip together to form a skeletal matrix that is filled with soil to provide uncompacted rooting volume for trees. They can be spread laterally as wide as necessary including under vehicular traffic areas with minimal surface coverage. The weight of the paving and any surface loading is transferred downward through the root space structure to the compacted base at the bottom of the tree pit while the soil within the cell structure remains uncompacted to allow for healthy tree root establishment. Utilizing soil cells for tree planting also provides a stormwater treatment function. Rainwater runoff can enter the system through pervious paving, drains, catch basins, and the opening around the tree trunk. These cells support paved surfaces of any kind and can meet loading requirements with proper engineered surfaces above. Local utility ducts, irrigation systems, and aeration systems can be designed into the layout of the cells.



TREE PLANTING & SOIL CELL UNIT IN DOUBLE LAYER DETAIL

NOT TO SCALE



Resources:

- CU-Structural Soil - A Comprehensive Guide.pdf
- Street Tree Planting Standards for New York City 2016
- Structural soil:
<http://www.hort.cornell.edu/uhi/outreach/pdfs/CU-Structural%20Soil%20-%20A%20Comprehensive%20Guide.pdf>
- Suspended pavement:
<https://thefield.asla.org/2014/04/24/planting-trees-in-suspended-pavement/>
- Philadelphia’s first suspended pavement system at Venice Island
<https://www.deeproot.com/blog/blog-entries/venice-island-silva-cell-project-enters-final-phase>
<https://www.deeproot.com/blog/blog-entries/celebrating-philadelphias-first-suspended-pavement-system>
<https://www.deeproot.com/products/silva-cell/case-studies.html>
<https://www.greenblue.com/wp-content/uploads/2017/08/Soil-Cells-vs-Structural-Soil-Analyzing-Soil-Under-Pavement.pdf>

Relevant Existing Ordinance Sections:

- [Chapter 135-30 - Street tree requirements](#)
- [Chapter § 128 - Shade Trees](#)
- [Chapter § 155-6.6: CAD-RCA City Avenue District - Regional Center Area](#)

3.b.iv.

Transportation Demand Management

Transportation Demand Management

Transportation Demand Management (TDM) focuses on helping people change their travel behavior—to meet their travel needs by using different modes, traveling at different times, making fewer trips or shorter trips, or taking different routes. The ultimate goal is to reduce traffic congestion, which is one of the most frequently cited issues negatively impacting the quality of life for Lower Merion residents.

Examples of TDM strategies include:

- Public Transit & Last Mile Connectors
- Carpooling, Vanpooling & Commuter Benefits
- Bike & Pedestrian Infrastructure
- Wayfinding, Aesthetics & Amenities
- Education & Outreach

The focus of the Circulation Element in the Township's 2016 Comprehensive Plan shifted from the automobile to building upon the Township's character as a compact, walkable, and transit-accessible community presenting a significant shift from past planning efforts. The plan was in many ways based on the premise that the best way to reduce automotive congestion is not to make roads wider, but to develop land use policies and physical infrastructure that make it safer and more convenient for people to use public transportation, walk, and bike for local trips.



In 2018, the Township and [GVF](#) were awarded a Transportation and Community Development Initiative (TCDI) grant by the Delaware Valley Regional Planning Commission (DVRPC) to develop a TDM policy that could serve as a model for other suburban communities in the region. The Township adopted the first TDM policy in the region in June 2020 (www.lowermerion.org/tdm).

An ordinance to amend the Subdivision and Land Development Code and Zoning Code was also prepared. However, due to the impacts of the COVID-19 Pandemic on commuting and travel patterns, the ordinance was not brought forward with the policy. The ordinance was drafted to initially incentivize developers and employers to provide a TDM Plan to establish a program to minimize the amount of parking demand associated with the project and reduce single-occupant vehicle trips.

The inclusion of TDM standards with the new Subdivision Land Development Code will advance the Township's TDM Policy and several recommendations of the Comprehensive Plan.

Relevant Comprehensive Plan Recommendations:

- C.2.b. Utilize the Functional Classification of Roads Map (Map C7) to promote "complete streets" that safely and efficiently accommodate automobile traffic, bicycles, and pedestrians while also promoting community greening and stormwater management.
- C.2.d. Promote a one less car trip approach to local transportation to promote transportation alternatives to vehicular trips through the Township.
- C.2.e. Work with the Lower Merion School District and local private schools to encourage more children to walk and bike to school. Develop and promote programs and incentives to encourage institutions and employers to implement innovative transportation programs encouraging bike sharing, carpooling, the increased use of mass transit, bicycling and/or walking.
- C.7. Promote walking and biking as equal modes of transportation for local trips within the Township to improve public health.
- C.8. Implement the prioritized plan for bicycle and pedestrian improvements to create a complete network around schools, community facilities, public transportation nodes and commercial centers.
- C.9. Work with Lower Merion School District (LMSD) and private educational institutions to maximize the number of students walking and biking to school to reduce unnecessary vehicular trips.
- C.10. Increase public education regarding benefits of sidewalks as well as homeowner responsibilities regarding installation and maintenance of sidewalks in the public right-of-way.
- C.11. Remove organizational barriers to sidewalk construction and bike lane installation and establish requirements to improve the pedestrian and bicycle environment.
- C.13. Require increased safe and accessible bicycle parking in commercial, institutional, and civic areas.
- C.14. Improve commuter access for all modes of transportation to reduce the number of transit users who drive to the station and provide ADA accommodations at transit stations and bus stops utilized by Township residents.
- C.15. Ensure that passenger amenities at bus and rail transportation facilities are safe and attractive.
- C.16. Actively advocate for continued service on all Amtrak and SEPTA rail lines, and the endangered Cynwyd Line, in particular.



Relevant Existing Ordinance Sections:

- § 135-11 Additional plans. Additional plans which may be required include an improvement construction plan, a final plan, and a construction record plan. A TDM Plan could be included under this section of the Code.
- Chapter 135, Article IV, Plan Requirements. TDM Plan requirements could be included in this article of the Code.
- § 135-19.B.8. A traffic impact study and parking analysis documenting existing conditions and projections subsequent to the proposed development. The study shall set forth the improvements needed to provide for the safe, efficient and orderly movement of traffic and shall be subject to the approval of the Township Engineer. Traffic impact study requirements could be expanded to include TDM plan requirements.



TDM Plan Examples:

- Cambridge, MA (pop. 113,630)
 - The ordinance was adopted in 1998 and made permanent in 2006.
 - Participation is triggered when an owner of non-residential property proposes to add parking above the registered number.
 - Small Project PTDM Plan if total parking = 5 to 19 spaces
 - Large Project PTDM Plan if total parking = 20 or more spaces
 - Large developments must create TDM plan, which includes incentives to walking, biking, carpooling, public transit.
 - Cambridge created a TMA that can assist developers and property owners with the implementation of TDM programs
- Pasadena, CA (pop. 142,647)
 - The owner/developer shall submit a Transportation Demand Management (TDM) Plan. The approved TDM Plan may include but not limited to the following items:
 - Private vanpool operation
 - Transit and vanpool fare subsidies
 - Pay parking for employees
 - Provision of subscription bus services
 - Alternative work hours
 - Capital improvements for transit services
 - Reduction of parking fees for carpools and vanpools
 - Bikeway linkages to established bicycle routes
- Bloomington, MN (pop. 85,578)
 - The City's TDM Ordinance requires:
 - Private vanpool operation
 - Transit and vanpool fare subsidies
 - Pay parking for employees
 - Provision of subscription bus services
 - Alternative work hours
 - Capital improvements for transit services
 - Reduction of parking fees for carpools and vanpools
 - Bikeway linkages to established bicycle routes

3.b.v.

Bus Stop Design Guidelines

Lower Merion is well-served by transit. In addition to Amtrak and SEPTA's rail facilities, eight SEPTA bus routes travel through Lower Merion. Establishing bus stop design guidelines in the new Subdivision and Land Development Code will provide consistency, continuity, and ensure the installation of attractive amenities at bus stops along Lower Merion roadways.

Providing transit facility improvements is incentivized in [City Avenue District](#). A Floor Area Ratio (FAR) increase of 0.05 is allowed in all three sub-districts when a developer provides accommodations to encourage mass transit, including the construction of new bus shelters along a public roadway, the installation of bus pull offs along bus routes and electronic mass transit schedule boards. A FAR increase of 0.15 is allowed in the Regional Center Area and Bala Cynwyd Retail sub-districts when an on-site bus stop is provided. Recently, new bus stops have been considered with commercial land development applications in Ardmore and Haverford. While the Zoning Code does require that the applicant submit documentation from the appropriate transit authority approving the design and location of the transit improvements to attain the FAR increases in the City Avenue District, formal guidelines are not provided in Lower Merion's Codes.

Bus stops are highly visible streetscape elements that can help to create an identity for an area and providing amenities at bus stops can also encourage riders to use mass transit. The Bus Stop Design Guidelines will:

- Build on [SEPTA's Bus Stop Design Guidelines](#).
- Include availability of amenities at shelters, such as benches and trash cans; wayfinding information.
- Consider site conditions, including: accessibility; lighting; nearby sidewalk and crosswalk conditions.
- Require formal maintenance agreements.



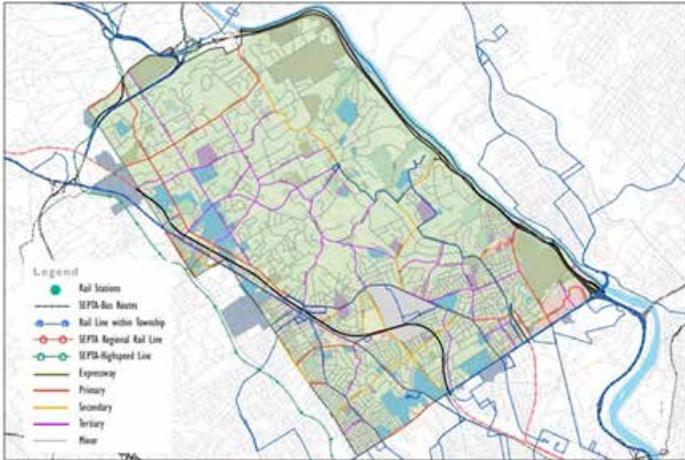


TABLE 3.20 2014 DAILY AVERAGE WEEKDAY RIDERSHIP: SEPTA TRANSIT ROUTES THROUGH LOWER MERION

| Route | Type of Service | Daily Average Weekday Ridership |
|----------------------|----------------------------|---------------------------------|
| Cynwyd Line | Regional Rail | 661 |
| Paoli Thorndale Line | Regional Rail | 21,618 |
| 100 | Norristown High Speed Line | 10,050 |
| G | SEPTA Bus | 14,130 |
| 1 | SEPTA Bus | 3,384 |
| 44 | SEPTA Bus | 4,731 |
| 52 | SEPTA Bus | 16,207 |
| 65 | SEPTA Bus | 8,678 |
| 103 | SEPTA Bus | 1,395 |
| 105 | SEPTA Bus | 1,589 |
| 106 | SEPTA Bus | 714 |
| TOTAL | | 83,157 |

Source: SEPTA Route Statistics 2014

Relevant Comprehensive Plan Recommendations:

- C.15. Ensure that passenger amenities at bus and rail transportation facilities are safe and attractive.
- C.15.c. Seek funding for and promote attractive, high quality bus shelters in commercial areas. Incorporate SEPTA's Bus Stop Design Guidelines in design standards.

Relevant Existing Ordinance Sections:

- Zoning Code §155-6.8. [Table 6.8.1. Bala Village \(CAD-BV\) Density Increase Standards](#) and §155-6.8. [Table 6.6.5. CAD-RCA Density Increases](#)
 - 0.05 FAR Increase for a development where accommodations to encourage mass transit are provided. Such accommodations include the construction of new bus shelters along a public roadway and/or the installation of electronic mass transit schedule boards. The applicant shall submit documentation from the appropriate transit authority approving the design and location of the transit facility improvements.
 - CAD-RCA and CAD-BCR Only: 0.15 FAR Increase for a development when an on-street bus stop is moved onto the property being developed. The following facilities shall be provided:
 - Benches;
 - Shelters; and
 - Mass transit schedule boards.

Examples:

- [SEPTA's Bus Stop Design Guidelines](#)



3.b.vi.

Electric Vehicle Charging Station Standards

Proliferation of Electric Vehicles (EV)

Demand for electric vehicles and necessary infrastructure is rapidly growing, both the nationally and locally. In Pennsylvania, between November 2020 and December 2017 the number of registered electric vehicles more than doubled with total of more than 29,000 electric passenger vehicles.¹

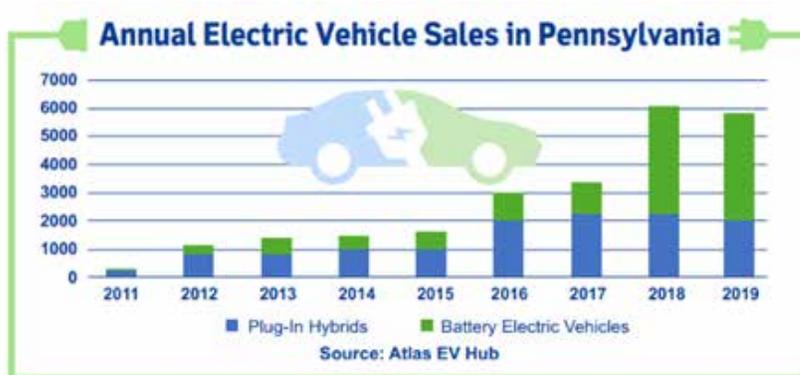


Figure 1: Pennsylvania Electric Vehicle Roadmap: 2021 Update

The emerging EV industry has created profound impacts to transportation planning policy and has quickly created a need to consider how the responsible accommodation will require regulation and ordinance consideration for adaptations. Staff has assessed implications of the increasing role electric vehicles play in transportation planning and are working with the Environmental Advisory Council to craft code standards that support the goals of the Township.

Increasing consumer demand

Electric vehicles sales have skyrocketed for a number of reasons within the last several years.

- More affordable - Falling lithium-ion battery prices Lithium-ion battery pack prices fell 87% from 2010 to 2019, with the volume-weighted average hitting \$156/kWh. Underlying material prices will play a larger role in the future, but the introduction of new chemistries, new manufacturing techniques and simplified pack designs will keep prices falling.²
 - Lower Operating Costs - Consumers save money because EVs are cheaper to maintain and charge

- Purchasing a new EV, even without tax incentives, is projected to decrease. By the mid-2020's, EV purchase costs are expected to be comparable to gasoline-powered vehicles
- Increasing Driving Range: There are currently several EV models with a maximum range over 200 miles.¹⁷ As battery technology improves, EVs will be able to go even farther between charges.
 - Increasing ease of finding charging stations through wayfinding apps³
- Increasing Charging Speeds: Fast charging technology is improving, decreasing charging time.

Adaptation to needs of growing industry

Locally, the demand has grown faster than the state – as depicted on EV ownership rates by zip code map. The regions with greater than the average EV ownership rates are depicted in orange and red for many of the zip codes within the Township.

Alternative Fuel Corridor Designation

On May 16, 2019 the Wolf Administration expanded its Routes for Clean-Fuel Drivers to include the US Route 30/Interstate 676 from Gettysburg to the New Jersey border Corridor. The Federal Highway Administration (FHWA) designated Route 30, Lancaster Avenue as a “corridor-ready” segment. “Corridor-ready segments currently contain a sufficient number of fueling facilities to allow for corridor travel with the designated alternative fuel. Corridors that do not have sufficient alternative fuel facilities to support alternative fuel vehicle travel are designated as corridor-pending. [Alternative Fuel Corridor Criteria](#).

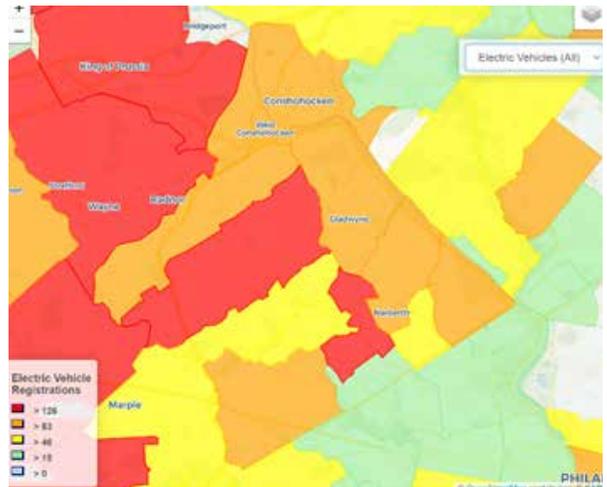


Figure 2: Interactive registered vehicle map illustrates higher than average ownership rates in Lower Merion Township (<https://s3.amazonaws.com/tmp-map/dot/vpic/pa-registered-vehicles-by-fuel-type-and-zip-code.html>)

Growing need for infrastructure that accommodates EVs

As depicted in Figure 1, electric vehicles were relatively non-existent as a topic for consideration during drafting of the current Township Comprehensive Plan and therefore relatively unmentioned. Currently, there is also limited guidance of EVs and related infrastructure within Township codes.

-
1. Pennsylvania Registered Vehicles by Fuel Type and Zip Code (Nov 2020 Registration Data – VPIC VIN Decoding)
 2. <https://about.bnef.com/electric-vehicle-outlook/>
 3. https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC

The Lower Merion Township Zoning Code defines electric vehicles, but provides little regulation. The zoning code definitions include:

- BATTERY ELECTRIC VEHICLE (BEV)
 - An electric vehicle that is powered solely by rechargeable electric battery, without any internal combustion engine.
- ELECTRIC VEHICLE (EV)
 - A vehicle that operates either partially or exclusively on electrical energy, provided by a rechargeable battery or other energy storage source, which can be charged by connection to the electric power grid. This term includes a battery electric vehicle, or plug-in hybrid vehicle.
- ELECTRIC VEHICLE CHARGING STATION (EVCS)
 - A public or private parking space that is served by and accessible to EV battery charging equipment which is supported by appropriate EVCS infrastructure.
 - A. LEVEL 1 EVCS - An EVCS utilizing an electric voltage up to 120 volts.
 - B. LEVEL 2 EVCS - An EVCS utilizing an electric voltage of up to 240 volts.
 - C. LEVEL 3 EVCS - An EVCS utilizing electric voltage of 480 to 600 volts
- ELECTRIC VEHICLE CHARGING STATION INFRASTRUCTURE
 - Structures and equipment, including necessary electric power usage-related infrastructure, to support the operation of an electric vehicle charging station, including distribution of electric power from the grid, and metering of delivered power.
- ELECTRIC VEHICLE PARKING SPACE
 - A marked parking space which is part of a Level 2 or Level 3 electric vehicle charging station and identifies the use of the space to be exclusively for an electric vehicle while charging an onboard vehicle battery.

The Township definition of Electric Vehicle Charging Station (EVCS) is an important recognition of specific needs for infrastructure improvements and accommodation to needs of end-users. Generally, the higher EVCS Level determines the speed of recharge time of EV batteries and plays an important role in future policy considerations as the Township considers adoption of regulations and adaptation to evolving industry standards.

Representative Operational Characteristics of EV Chargers for Light-Duty Vehicles

| Charger Type | Primary Use | Typical Power Output | Estimated EV Charge Time from Empty (~60 kWh battery) |
|---|---------------------------------|----------------------|---|
| Level 1  | Residential Charging | 1 - 1.5 kW | 40 - 50 hours |
| Level 2 | Residential and Public Charging | 7 - 19 kW | 4 - 10 hours |
| Older Level 3 DC Fast Charge | Public Charging | 50 kW | < 1 hour [to 80% charge]* |
| State-of-the-Art DC Fast Charge | Public Charging | 150 kW + | 20 minutes [to 80% charge]* |

Figure 3: Example from DEP provides context to Township Zoning Code definitions of Levels 1,2 and 3. Consideration should be made for "State-of-the-art DC Fast Charge" as industry evolves

Zoning Code Regulation

There are two provisions within the Township zoning code that regulate EV, concerning a reserved policy regarding parking and the limitation of charging structure from front yards:

- § 155-8.6 (4) Electric vehicle parking spaces. (Reserved)
- § 155-3.5.F(1)(h) Electric vehicle charging station structures and equipment are prohibited in frontage yards

SALDO regulations can complement the Zoning Code; both will need to be coordinated when considered for updates.

Assess and analyze EV charging stations best practices

EV readiness includes the establishment of building and electrical codes, zoning codes, permitting and inspection processes, parking, signage, and procurement policies. The Planning Team have investigated nationwide policies regarding EV parking, charging and implementation standards. EVs and related infrastructure have various implications to our built environment and therefore require a holistic review of policy considerations include:

- Public Parking
 - Incentives to cost-effectively install charging equipment for residents and visitors.
 - Identifying potential locations such as municipal buildings, parking garages, and parks.
 - Examples:
 - City of Tucson Municipal Code Proposal - [Parking enforcement](#)
 - City of Berkeley - [Residential Curbside Electric Vehicle Charging Pilot Program](#)
- Signage
 - Washington State Legislature - [Vertical signs identifying location of charging stations.](#)
 - Wayfinding for network access to charging stations.
- Charging infrastructure requirements or incentives
 - Limiting logical location of fast-charging stations to promote EV use.
 - Ensure infrastructure and capacity of grid can handle charging.
- Multifamily development
 - Consideration of requirements of EV infrastructure in multifamily developments.
- Permitting Process
 - [City of San Jose](#)
 - Requirements for electric vehicle charging stations
 - Streamlined permitting process
- Coordination with Utilities
 - PA Public Utility Commission
 - PECO

Examples

EV Parking Minimums

Washington State, Mountlake Terrace

Many cities apply zoning to establish numerical or percentage-based goals for EVSE infrastructure and EV reserved parking or allow developers to count EV parking toward overall parking requirements. For example, in Mountlake Terrace, Washington, the community used zoning to require EVSE development in multifamily residential, medical and office facilities, as well as lodging and municipal zones.

| AN EXAMPLE OF EV PARKING MINIMUMS IN MOUNTLAKE TERRACE, WA ³² | |
|--|------------------------|
| Land Use Type | Percent Parking Spaces |
| Multi-household Res | 10% |
| Lodging | 3% |
| Retail, eating and drinking | 1% |
| Office, medical | 3% |
| Industrial | 1% |
| Institutional, Municipal | 3% |
| Recreation/Entertainment/Cultural | 1% |
| Other | 3% |

Stockton, California

In Stockton, California, developers are able to count one charging space as two parking spaces, for up to 10% of total required parking.

Vancouver Building By-law No. 9936 (2009)

Single-Family Dwellings: Vancouver Building By-law No. 9691 (2008)

- Vancouver City established a number of requirements for EV charging including requiring a percentage of parking stalls to be pre-wired for EVSE with a strategy to encourage electric vehicle (EV) readiness through the pre-wiring of garages and parking stalls at time of construction for current or future installation of charging stations. The goal is to provide future capability for dedicated EVSE in single- and multifamily homes, as well as commercial locations.

Multifamily Dwellings: Vancouver Building By-law No. 9936 (2009)

- In 2008, Vancouver City Council the enacted new regulations in the city's building code that require a portion of the parking stalls in all new multifamily (three or more units) residential construction to accommodate EV charging. The provisions went into effect in April 2011.

Phoenixville – SALDO Regulation

An excellent local example comes from Phoenixville, Chester County, who have included provisions for the regulation of EV parking within the Subdivision and Land Development Ordinance (SALDO). [§ 22-417.7 of the SALDO](#).

Other examples for consideration of regulations include:

- Iowa Clean Cities Coalition/Iowa Economic Development Authority Advancing Iowa's Electric Vehicle Market
- Des Moines Area Metropolitan Planning Organization Electric Vehicle Readiness
- Transportation Climate Initiative (TCI) Creating EV-Ready Towns and Cities: A Guide to Planning and Policy Tools
- Office of Planning and Research of the Governor of California Zoning Example for Installation of Plug-In Vehicle Charging Stations
- Auburn Hills, Michigan Comprehensive Electric Vehicle Infrastructure Ordinance
- <https://www.menlopark.org/DocumentCenter/View/14341/Staff-Handout---H6>
- <https://www.atlantaga.gov/Home/Components/News/News/10258/1338?backlist=/>
- <https://dmampodemo.files.wordpress.com/2013/06/evzoning.pdf>

Regulation and promotion of policy is purview of community

- A critical assessment should be made to collectively agree upon a consensus to depth of regulation to both infrastructure policy and adoption of EV by the Township
- Charging stations critical component
- Policy affects adaptation of EV industry growth

3.c.i.

Green Parking Lot Standards

Green parking lots use innovative stormwater management practices, vegetation, and sustainable paving materials to mitigate adverse environmental impacts of large expanses of paving. Green parking lots also incorporate sustainable practices such as adding energy-efficient lighting and renewable energy sources, providing safe pedestrian circulation, and creating significant public spaces that could contribute to the overall local community fabric. These parking lots go above and beyond traditional lots by improving the natural environment and the quality of life enjoyed by Montgomery County residents, workers, and visitors.

- *Montgomery County Sustainable Green Parking Lots Guide, 2016*

The Natural Features Conservation Code includes landscaping standards along the perimeter of parking lots and requires an interior parking area every 12 spaces. The SALDO survey results showed that the majority of respondents would prefer using a performance-based greening standard (e.g., percentage canopy coverage over a parking area) over strict adherence to landscape standards (e.g., X trees per 12 parking spaces).

Green parking lots offer the following benefits:

- Minimize Heat Island Effect by maximizing Shading and Greening.
- Promote infiltration and naturalized drainage to protect local water quality.
- Integrate built and natural environment and use land more efficiently.
- Provide safe passage and walkways for pedestrians in parking lots.



It is recommended that green parking lot design standards be established in-line with the [Montgomery County Sustainable Green Parking Lots Guide](#). While the majority of the standards will be best suited to the Natural Features Code, some elements of parking lot design to improve pedestrian circulation and safety improvements could be incorporated in the SALDO, such as:

- Require clear dedicated pathways into the parking lot and direct connections to focal points.
- Integrate other required design elements such as bike parking, electric vehicle charging stations, bus shelters into the parking lot design.
- Separate pedestrian areas from vehicles by using landscape islands and medians for pedestrian walkways. Balance and ingrate planted islands with pedestrian access.
 - Provide pavement striping, crosswalks, and pavement markings for pedestrians.
 - Traffic control and calming elements can be incorporated with larger parking lots.
 - Dedicated Pedestrians drop off areas with Building entry plazas
 - Consider pedestrian plaza areas to provide gathering areas.

Recommended enhancements to the Natural Features Code, include:

- Perimeter Planting Areas:
 - Lower Threshold for applicability from 15,000 square feet (101.9B(1)) to 8,000 square feet or 20 or more parking spaces.
 - Replace the perimeter parking area with a more detailed integrated application of the green parking lot ordinance elements.
 - Require more canopy trees and installation of bioretention, such as bioswales or rain gardens, if site conditions are appropriate.
- Establish planting densities in the bioretention areas.
- Establish plant selection diversity.
- Redevelopment of Existing Parking Lots: Establish a threshold for compliance when a building is expanded a certain percentage than the parking lot would be retrofitted to current standards.
- Promote use of permeable pavement alternatives. These would be appropriate in the stormwater or zoning ordinances.

| Minimum number Required trees | Minimum number of Tree species | Maximum % any 1 species |
|-------------------------------|--------------------------------|-------------------------|
| 0-5 | 1 | 100% |
| 6-15 | 2 | 50% |
| 16-30 | 3 | 40% |
| 31-50 | 5 | 30% |
| 51+ | 6 | 20% |



Relevant Comprehensive Plan Recommendations:

- W6.a. Assess and amend Township codes, as needed, to improve stormwater management on existing, new, and redeveloped parking lots.

Relevant Existing Ordinance Sections:

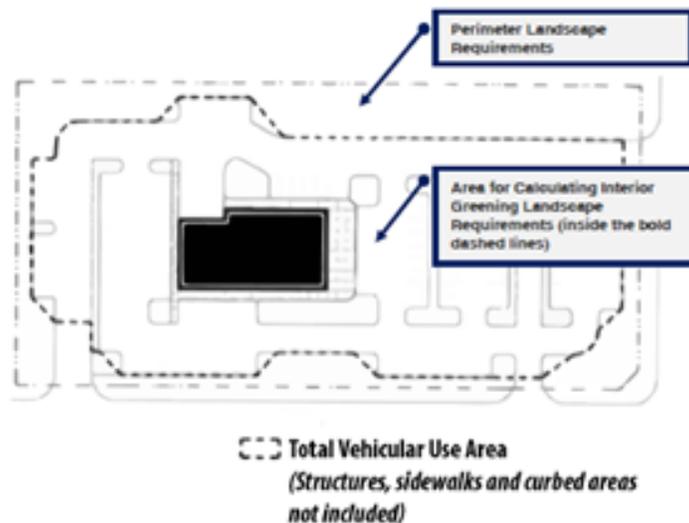
- Natural Features Conservation §101-9.B. requires:
 - Perimeter planting areas of trees and shrubs (5-15 feet wide)
 - One planting area (340 sq. ft.) per 12 parking spaces (new or redeveloped lots)
 - “Bordered appropriately to prevent erosion or damage from automobiles” Allow curb openings for stormwater runoff to flow into planted areas

Local Examples:

[Cheltenham Township’s new SALDO](#) specifies a percentage of the “vehicular use area” that must be landscaped based on the total vehicular use area on the site. Perimeter landscaping is also required to screen the parking area (see illustrations below).

Figure 4.7- Interior Landscaping Requirements as Percentage of Vehicular Use Area

| Vehicular Use Area (VUA) | % of VUA required as interior landscaping area |
|---------------------------|--|
| 0 - 4,999 square feet | -0- |
| 5,000 - 14,999 sq. ft. | 6 % |
| 15,000 – 49,999 sq. ft. | 8% |
| 50,000 - 99,999 sq. ft. | 10 % |
| 100,000 – 149,999 sq. ft. | 13 % |
| ≥ 150,000 sq. ft. | 15 % |



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3.c.ii.

Buffer Planting Design Guidelines

Buffering is a planning concept that is intended to mitigate visual and audible impact of higher intensity uses upon lower intensity uses. Buffer plantings should provide a screen of sufficient height to constitute an effective screen and give maximum protection and immediate visual screening to an abutting property. The Zoning Code defines a buffer area as follows:

BUFFER AREA: A designated area at the perimeter of a lot, densely landscaped its full width with trees and shrubs, as a visual and ambient screen to protect residential property from impacts of other uses.

Code provisions to regulate buffer planting requirements are currently provided in the Natural Features Code, Subdivision and Land Development Code (SALDO) and the Zoning Code. Staff recommends that the buffer area standards be synthesized and that enhanced landscape and screening buffer design guidelines be provided as the SALDO is updated.

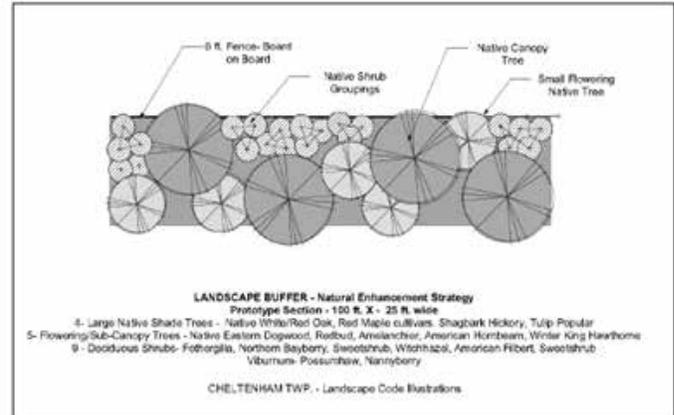
Research indicates that many local jurisdictions have enacted some form of buffer standards in their SALDO or Zoning standards. Staff looked at 8 municipalities for standards to see if they are applicable to Lower Merion Township SALDO revisions. Staff noted similar guidelines for prescribing buffers:

1. Performance-based standard for creating the buffer.
2. Buffer "classes" based on proximity to dissimilar or conflicting zoning uses.
3. Require a variety of landscape materials to ensure biodiversity and species richness.

Local Examples:

1. [Cheltenham Township's SALDO](#) uses a performance-based standard for creating the buffer. The width of the buffer is based on the zoning district and the lot size. The SALDO provides a prototype section for different width buffers and includes a sample plant list for each (see example to right).

Figure 4.6c.: Prototype Section for 25-Foot Buffer.



- The required number of plantings “shall be that which, taken together, have a minimum of 85% ground coverage and canopy coverage of the required buffer area, as measured by the design ground coverage and canopy coverage of all plants proposed.”
- Screening required for ground-mounted elements (e.g., dumpsters, loading docks, electrical transformers) and roof-mounted elements (e.g., HVAC and mechanical equipment)

2. [Lansdale Borough's SALDO](#) has standards for two different types of buffers: “softening” and “filtering” and the type of buffer required depends on the existing use adjacent to the proposed use that is being buffered. Lansdale has prescriptive landscape standards/options for each buffer type.

Figure 4.5: Required Buffer Type

| Proposed Uses | Existing Uses | | | |
|---|--|---------------------------|---|--|
| | Office/ Institutional/ Private Recreation | Commercial/ Industrial | Multifamily/ Single-Family Attached/ Mobile Home | Twins/ Duplexes/ Single-Family Detached |
| Office/ Institutional | Softening | Softening | Filtering | Screening |
| Commercial/ Industrial | Filtering | Softening | Screening | Screening |
| Multifamily/ Single-Family Attached/ Mobile Home | Softening | Filtering | Softening | Filtering |
| Active Recreation | Softening | Filtering | Softening | Softening |

3. [The Lower Macungie Township Design Standards](#) includes both plan and elevation views of different classes of buffers.

- Class A Buffers should be utilized in densely populated, build out and limited area spaces.
- Class B Buffers should be used as conventional buffers for reverse frontage, business-to-residential separation or general privacy.
- Class C Buffers shall be utilized for warehousing or distribution uses, industrial uses and the like. Also Class C Buffers shall be used for rear portions of large-scale commercial and retail uses.

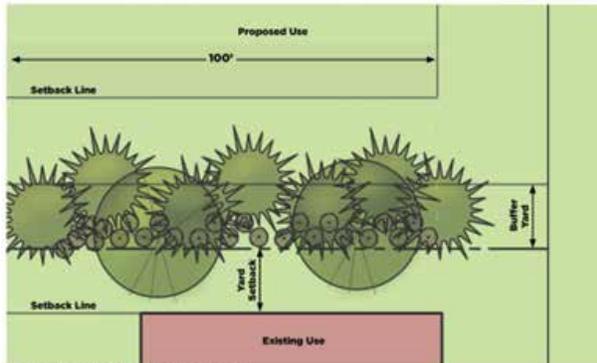


Figure 3A-1 - Class A Buffer Plan

NOTE: TREES ARE SHOWN APPROX. 10 YEARS AFTER PLANTING

- Evergreen Trees
- Canopy Tree
- Shrub

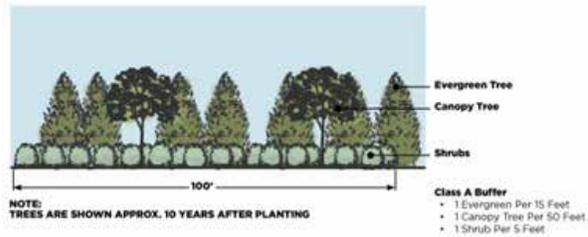
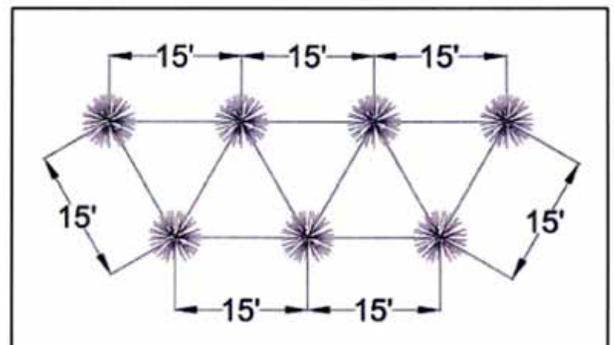


Figure 3A-2 - Class A Buffer Elevation

4. [The Township of Chestnuthill SALDO](#) has standards for two different types of buffers including “softening” and “screening.” The type of buffer required is contingent on the adjacent and existing to the proposed land use which is being buffered.

- The prescriptive landscape standards/options for the “softening buffer” appear to be less restrictive some of the restrictions include: (1) 4 shade trees & 8 shrubs shall be provided for each 100 feet of property perimeter; (2) Evergreen or ornamental trees may be substituted for shade trees at a rate of 2 per required shade tree; (3) No more than 50% of required trees can be evergreen.
- The prescriptive landscape standards/options for the “screen buffer” appear to be more restrictive some of the restrictions include the following size and types: (1)100% evergreen varieties are to be used; (2) Shrubs can be evergreen and deciduous; (3)plants must provide immediate visual screening of 50%, and 100% within two years of planting; (4)Evergreen trees shall be at least 8’ in height at the time of planting; (5) If the buffer planting requires more than 50 trees, no more than 50% of these trees shall be of a single variety; (6) plantings shall be placed between the wall or fence and the property line or right-of-way; (7) plantings shall be placed on the side of the berm facing the property line or right-of-way. (8) No plantings shall be placed directly on top of the berm.
 - Screening shall consist of evergreen trees in double rows, staggered 10 feet to 15 feet on center per the accompanying diagram. The spacing shall be dependent on the type of trees used; pine, spruce and fir species: 15 feet; American holly: 10 feet. Shrubs may be used to supplement the evergreen trees.



5. [The North Coventry Township design standards](#) includes 4 different classes of buffers. The classes of these buffers are noted as Class A, Class B, Class C, and Class D, with Class A being least restrictive & Class D being more restrictive. This Township considers the following items when designing a buffer: quantity of canopy trees & evergreen trees, minimum width of the buffer, existing topography, man-made structures, preservation of existing trees which are greater than 3" caliper or greater than 8' in height in the buffer area, maintenance of the buffer, the size of the buffer at maturity, and structures in the buffer.

Details of these buffers are as follows:

- Class A Buffers should be utilized in 10 or more multifamily dwelling units, or single-family attached dwelling units (townhouses) adjoining any residentially zoned district (RC, RR, R-1, V-1, TC-1) district or residential use. The standards are as follows:
 - One canopy tree per 40 feet plus one evergreen per 30 feet of boundary; or
 - One canopy tree per 40 feet plus one flowering/ornamental tree per 60 feet plus one evergreen per 60 feet of boundary.
 - Minimum width: The Class A buffer yard width shall be no less than 25 feet.
- Class B Buffers should be used as commercial use, office use, or mobile home park adjoining any residentially zoned district or residential use. The standards are as follows:
 - One evergreen per 15 feet and one flowering/ornamental tree per 50 feet of boundary.
 - Minimum width: The Class B buffer yard width shall be no less than 35 feet.
- Class C Buffers shall be used for any industrial use or intensive agricultural use, except as noted in Subsection D(1)(d) below, adjoining any residentially zoned district or residential use. The standards are as follows:
 - One evergreen per 20 feet plus one berm four feet high; or
 - Six-foot-high cedar or spruce fencing with one flowering/ornamental or evergreen tree every 30 feet.
 - Minimum width: The Class C buffer yard width shall be no less than 40 feet.
- Class D Buffers should be used for a junkyard, landfill, recycling center, quarry, or transfer station shall provide a Class D buffer between the required fence^[4] and the street line or any edge of the property adjacent to a residential or commercial use or district.
 - In addition to the required fencing, the following planting shall be provided between the fence and street or property line:
 - One canopy or flowering/ornamental tree at an average of one tree per 40 feet plus one evergreen tree at an average of one tree per 20 feet; or
 - One canopy or flowering/ornamental tree at an average of one tree per 40 feet plus one shrub per eight feet.
 - Minimum width: The Class D buffer yard width shall be the setback specified for the required fence for the individual use in Article X of Chapter 370, Zoning, or 30 feet, whichever is greater.

6. [The Township of Marple design standards](#) includes 3 different "types" of buffers based on impact of use on adjoining zoning district boundaries. The impacts noted are Low-Impact Districts which include all Open Space uses, all Residential uses with the exception of PRD, RMHD, RHD; the Medium-Impact Districts including some Residential uses with the exception of PRD, RMHD, RHD, Commercial NC, OLM, and Institutional Uses NS, C; and the High-Impact Districts

including Commercial Use with the exception of NC, OLM, all Industrial Use, and Institutional Uses with the exception of NS, C. The buffer "use classifications" are further broken down into Types A, B, C & D, with Type A being least restrictive & Type D being more restrictive. This Township also considers the following items when designing a buffer: retention of existing natural buffers, landscaping setbacks, alternative buffers including innovative free-form buffers, maintenance required, and recommendations of plant species, plant spacing, and plant size in the buffer.

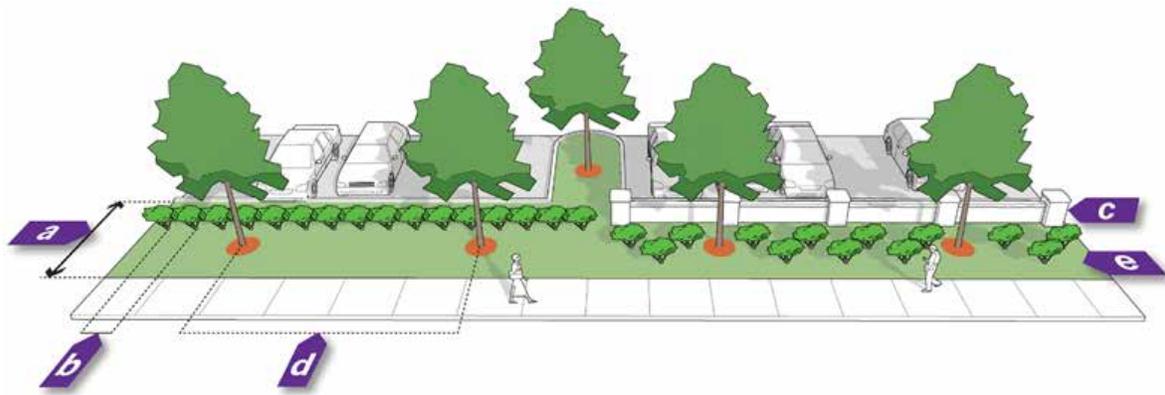
- Type A Buffers is classified as having 1 canopy tree per 40 linear feet.
- Type B Buffers are classified as the following - B1: having 1 canopy tree per 40 linear feet, plus 1 flowering tree per 60 linear feet, plus 1 evergreen per 60 linear feet; B2: having 1 canopy tree per 40 linear feet, plus 1 hedge (three-foot centers); and B3: having 1 canopy tree per 40 linear feet, plus one evergreen per 30 linear feet.
- Type C Buffers are classified as the following - C1: having 1 evergreen per 30 linear feet, plus 1 hedge (three-foot centers); C2: having 1 evergreen per 25 linear feet, plus 1 linear berm 4' high, C3: having 1 evergreen per 25 linear feet, plus one shrub per 8 linear feet; and C4: having 1 evergreen per 20 linear feet, plus 1 shrub. two per four linear feet
- Type D Buffers are classified as the following - D1: having 1 hedgerow (three-foot centers), D2: having six-foot high solid cedar or spruce fencing; and D3: having six-foot high twelve-gauge plastic-coated chain link fence.

7. [The Township of Tredyffrin](#) has both "buffer" and "perimeter planting" design standards which are incorporated as part of the minimum planting requirements for all Zoning districts. These standards include parking lots noted as "perimeter plantings" and a "buffer yard" is required within any yard that abuts residential for any nonresidential district abutting a residential district, and for any nonresidential use within a residential district. This Township considers the following factors when designing a buffer: a requirement for a solid fence or wall, landscaping setbacks, recommendations of plant species including: trees, shrubs, perennials & live ground cover, or ornamental grasses, plant spacing, and plant size in the buffer. Other guidelines which are considered for "buffered yards" are as follows:

- Fence or wall required for all buffer yards. A solid fence or wall a minimum of six feet and a maximum of seven feet in height is required.
- The buffer yard must be a minimum of 20 feet in depth or the depth of the required yard, whichever is less and must extend the full width of the lot line that abuts a residential district.
- Buffer yards less than 35 feet in width will include: (1) 1 shade tree for every 100 linear feet, 2 flowering trees may be substituted for each required shade tree, (2) 10 evergreen trees for every 100 linear feet are required, (3) 6 shrubs for every 100 linear feet are required.
- Plantings for buffer yards 35 feet or more in width will include: (1) 2 shade trees for every 100 linear feet are required, 2 flowering trees may be substituted for each required shade tree, (2) 10 evergreen trees for every 100 linear feet are required, and (3) 6 shrubs for every 100 linear feet are required.

Additional plantings for all buffer yards. In addition to the required plantings above, the remainder of the buffer yard area must be planted in shrubs, live ground cover, perennials, or ornamental grasses.

Figure 52.1: Perimeter Landscape Yard



Key:

a = Required width of perimeter landscape yard

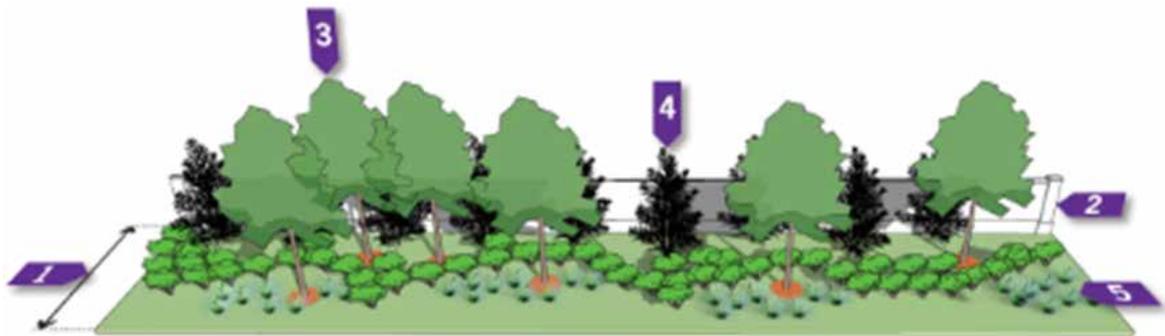
b = Required shrubs

c = Alternate pedestrian wall

d = Required trees

e = Shrubs used to soften pedestrian wall

Figure 52.3: Buffer Yard Planting Requirements



Key:

1 = Required width of buffer yard

2 = Required fence or wall

3 = Required shade trees

4 = Required evergreen trees

5 = Required Shrubs

Relevant Comprehensive Plan Recommendations:

- LC.1. Revised zoning should reflect existing commercial land use and provide appropriate controls for residential properties, such as appropriate buffers and design standards to ensure the orientation of commercial activities away from residences.

Relevant Existing Ordinance Sections:

- Subdivision & Land Development Code [§135-31 – Planted buffer areas](#)
- Natural Features Conservation (§101-8, §101-9, §101-10)
- Zoning §155-3.10.C. "Landscape buffers shall, in the opinion of the Director of Building and Planning, provide a sustainable filtered visual screen that will mature up to a height of at least six feet."

3.c.iii.

Update Greening Standards

The greening standards are intended to help create a balanced, ordered streetscape with regular and consistent placement of street elements and greenery in commercial districts. Adding greening elements, such as hanging baskets, planters, and window boxes, can provide a decorative accent to buildings and contributes to the overall attractiveness of these areas.

The Township first adopted greening standards in 2005. The greening standards are based on linear feet of frontage in the category of building addition, new building, and district. Points are required from the different categories listed in Table 2: Streetscape and Greening Elements. Within this framework, there is room for variety and flexibility, while maintaining a cohesive character.

The SALDO survey responses indicated that the greening standards can be confusing due to redundancies with other code provisions, which is in line with staff experience in applying the standards.

It is recommended that the greening standards be updated to provide additional information to include guidelines for the design and placement of streetscape elements to create a safe, attractive, and functional public realm within the Township’s commercial areas. The revisions will aim to make the standards easy to understand, apply, and reduce the potential for redundancies between other code requirements for public gathering space, street trees, and natural features.

**Table 2
Streetscape and Greening Elements**

| Category | Item (to be provided for each 25 linear feet of frontage on streets) | Amount (to be provided per 25 linear feet of frontage on streets) | Points |
|----------|---|---|--------|
| A | Hanging basket (minimum size 12 inches in diameter, planted with groundcovers or flowers) | 3 baskets | 1 |
| A | Window box or boxes along ground floor windows (minimum size of 6 inches deep, vertically and horizontally, planted with shrubs, groundcovers or flowers) | 48 total inches of length | 1 |
| A | Additional planting area including shrubs, trees, groundcovers or flowers | 40 square feet | 2 |
| A | Street planter (minimum size 24 inches in diameter) | 2 planters | 2 |
| B | Raised planting bed (shrubs, groundcovers and flowers) | 40 square feet | 2 |
| B | Bench | Minimum 5 feet length | 2 |
| B | Trellis (minimum size 30 square feet planted with vines or shrubs) | 1 trellis | 2 |
| B | Arbor or pergola (minimum size 8 feet high by 6 feet wide by 4 feet deep, planted with vines or shrubs) | 1 arbor or pergola | 3 |
| B | Planting in curb extension (planted bulb outs/large planters with shrubs, groundcovers and flowers) | 60 square feet | 3 |
| B | Window boxes or planters along upper story windows (minimum size of 6 inches deep, planted with material visible from the sidewalk) | 48 total inches of length | 3 |
| B | Public art/sculpture/mural | 1 per area | 3 |
| C | Urban garden (see requirements in § 135-41.4D) | 300 square feet | 4 |
| C | Water feature (fountain, waterfall, etc.) | 1 per area | 4 |
| C | Plaza/square/courtyard (see requirements in § 135-41.4E) | 300 square feet | 4 |

Improving the appearance of the commercial areas through additional greenery towards a common vision of an attractive and green commercial area is a major focus of the Comprehensive Plan's commercial land use recommendations.

Relevant Comprehensive Plan Recommendations:

- LC.10. Prepare Township-Wide Streetscape Standards for each commercial area typology. Require greening, bicycle, and pedestrian improvements with new development and work with private property owners and business associations to make such improvements to businesses not undergoing redevelopment.
- LC.24. Neighborhood Main Streets. Develop consistent architectural and streetscape standards for commercial districts with similar characteristics.
- LC.25. Neighborhood Main Streets. Incorporate streetscape standards into revised zoning [or SALDO]. Promote street trees, commercial greening, and landscaped setbacks.
- LC.47. Traditional Main Streets. Promote higher level of public greening in Traditional Main Street districts.

Relevant Existing Ordinance Sections:

- [135-41.4. Table 1 & 2.](#)
- Currently applies to new buildings and building additions in the BMV, VC, TC, RHR, and CAD zoning districts.

Additional Resources:

- [Montgomery County Model Town Center District Ordinance, 2006 \(page 17\)](#)



3.d.i.

Public Gathering Space Design Guidelines

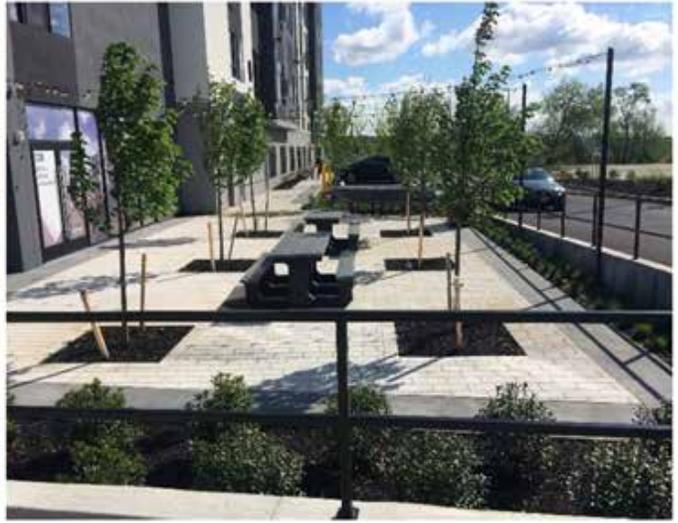
The Subdivision and Land Development Code (SALDO) should establish public gathering space design guidelines. This would involve moving the public gathering space design standards in the City Avenue District and Bryn Mawr Village zoning districts to the SALDO and adding additional dimensional standards, requirements for how the gathering space connects to/relates to the street frontage, etc. The SALDO could also consider expanding the use of official maps to designate desired locations for new public gathering spaces within the township's commercial districts (see Official Map Recommendation below).

Relevant Comprehensive Plan Recommendations:

- Land Use: Commercial
 - LC 13: Identify appropriate locations for permanent or seasonal civic space in all commercial areas and ensure that areas considered for public gathering space are appropriately landscaped.
 - LC26: Link commercial areas with nearby public spaces. Promote small scale gathering spaces such as outdoor dining on a lot-by-lot basis. Require shopping centers to include public gathering space. Promote seasonal use of unused parking for public gathering and special events.
 - LC67: Continue to refine the public gathering space standards and locations included in the zoning standards and on the Official Map to promote a functionally connected and unifying series of significant public gathering spaces. Identify locations for public actions/investments to complete the network.

Relevant Existing Ordinance Sections:

- [155.4.3.C.5](#) - Commercial Center VC and TC Districts
- [155-6.4.D.b](#) - BMV Bryn Mawr Village District
- [155-6.8.M](#) - City Avenue District- Bala Village
- [155-6.6.M](#) - City Avenue District- Regional Center Area



Local Examples:

- 9 Presidential Boulevard, Bala Cynwyd (above) - 5,967 sq. ft. Constructed.
- 2, 6 & 10 S. Bryn Mawr Avenue, Bryn Mawr (below) - 7,517 sq. ft. Planned.



- Montgomery County Planning Commission, [New Town Mixed Use District Model Ordinance](#)

3.d.ii.

Dedication of Land for Recreation; Fees in Lieu

Section 503 of the Pennsylvania Municipalities Planning Code allows municipalities to include provisions in the Subdivision and Land Development Code requiring the public dedication of recreational land; and, upon agreement with the applicant or developer, the construction of recreational facilities, the payment of fees in lieu thereof, the private reservation of the land, or a combination, for park or recreation purposes as a condition precedent to final plan approval. Lower Merion Subdivision and Land Development Code Section 135-50.1 establishes the following requirements:

- Recreational land must be provided with residential land development applications containing three or more units.
- Set Aside Requirements: 15% of the land area for Recreation Purposes or a fee-in-lieu
 - Current Amount is \$3,000.00 per unit.

Since 2010, the Township has received \$1.77M in fees-in-lieu of providing the recreational facilities. The fee paid in-lieu of providing the recreational facility is required to go towards providing, acquiring, operating or maintaining park or recreational facilities reasonably accessible to the development. The fees have gone towards several improvements to the Township's public park system, including the development of the Cynwyd Heritage Trail, construction of the South Ardmore walking path, and the improvements to the Ashbridge park playground.



The recreational set aside requirements were first adopted in 2006, and were amended in 2017 and 2018 as further explained below:

- Recreational Set Aside Adopted 2006 (Ord. 3787)
 - Requires dedication of 15% of the tract area as a recreational area for residential subdivision or land development comprising more than three building lots or residential units
 - Fee-in-Lieu (Chapter A167)
- Recreational Set Aside Amended 2017 (Ord. 4105): Establish the following minimum criteria for recreational facilities:
 - The recreational facilities must be in addition to those otherwise required to be constructed.
 - The recreational facilities must be outdoors and not under roof.
 - The primary use of the facilities must be for active recreational activities.
 - The area of the proposed recreational facilities will be used to measure the degree to which the required 15% of the tract area to be set aside has been satisfied.
- Recreational Set Aside Amended 2018 (Ord. 4127):
 - Reflect MPC Amendments
 - Allow the use of funds for operating or maintaining a park reasonably accessible to the development (instead of directly accessible to a development)
 - Remove the three year time limit. Funds will be refunded to the developer only if the Township has failed to utilize the fee paid for a purpose other than the purposes set forth in this section
 - Increase the fee from \$2,500 to \$3,000

Recommended Amendments to the SALDO:

- Expand Applicability: Potential options to expand the recreational land provisions to apply to commercial and institutional development.
 - Staff seeks the Board's direction on this policy issue.
- Establish clearer guidance on what must be included in the 15% set side area for the dedicated open space based upon the intensity of the development and other Code provisions. Resolve overlap between greening standards and public gathering space standards.
- Consider an option to increase the current fee-in-lieu on an annual basis with the annual fee schedule as opposed to the current intermittent increase.

Relevant Comprehensive Plan Recommendations:

Community Facilities & Services: Parks & Recreation Plan.

- Goal 4: Work in collaboration with Township planners on the redevelopment of the villages regarding parks and recreation to ensure that public recreation facilities, opportunities, and partnerships in management are incorporated into the improvements.
 - Recommendation d. Incorporate parks and recreation planning into planning for the City Avenue District.
 - Recommendation e. Ensure the effective implementation of the recreation provision in §135-50.1 of the Subdivision and Land Development Code of Lower Merion Township in order to establish and maintain meaningful recreation facilities.

Relevant Existing Ordinance Sections:

- Subdivision and Land Development Code Section 135-50.1 Dedication of Land for Recreation; Fees in Lieu



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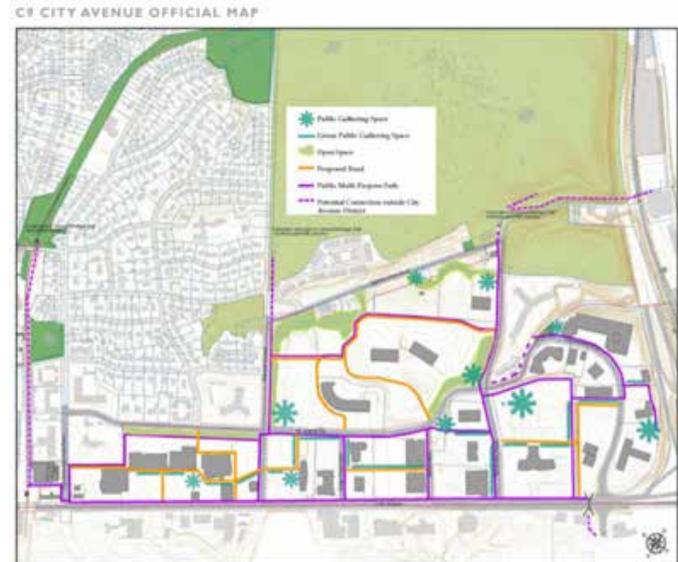
3.d.iii.

Official Map

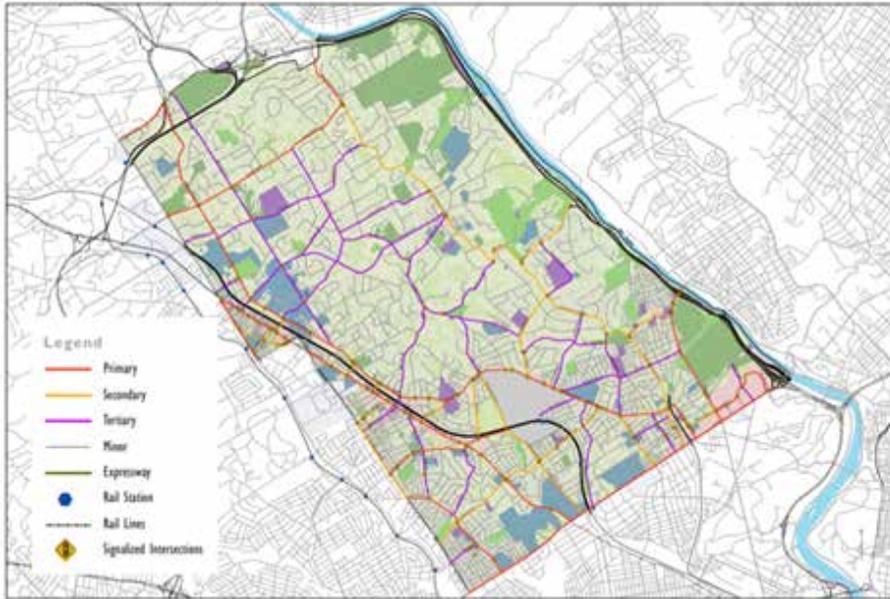
The Official Map is a planning tool granted to municipalities by the Pennsylvania Municipalities Planning Code to allow for the designation of future public facilities on a map. The Township has the City Avenue Official Map, adopted in 2012 and the Official Highway Map. The City Avenue Official Map shows the desired locations for public gathering space, public multipurpose paths, open space, and new roads. The official map complements the City Avenue District by establishing the community's desired locations for these future public amenities. The Official Highway Map shows the location of existing and proposed streets in the Township. The official map provides a certain degree of predictability for the developers and the community with regards to the placement of public amenities.

Since the City Avenue Official Map and City Avenue Zoning District was adopted, approximately 38,764 sq. ft. of new public gathering space and 0.56 linear miles of public multipurpose paths have been constructed in the City Avenue District.

It is recommended that the new Subdivision and Land Development Code includes plan submittal standards for civic amenities provided on the Official Map. It is also recommended that the Board of Commissioners consider expanding the use of the official map to show desired locations of public improvements and civic amenities in other locations in the township.



The City Avenue Official Map illustrates the proposed location for new these new minor roads.



The Official Highway Map shows the location of existing and proposed streets within the Township and classifies each street as Primary, Secondary, Tertiary or Minor according to their right-of-way width, connectivity to the regional roadway network and their relationship to local land uses.

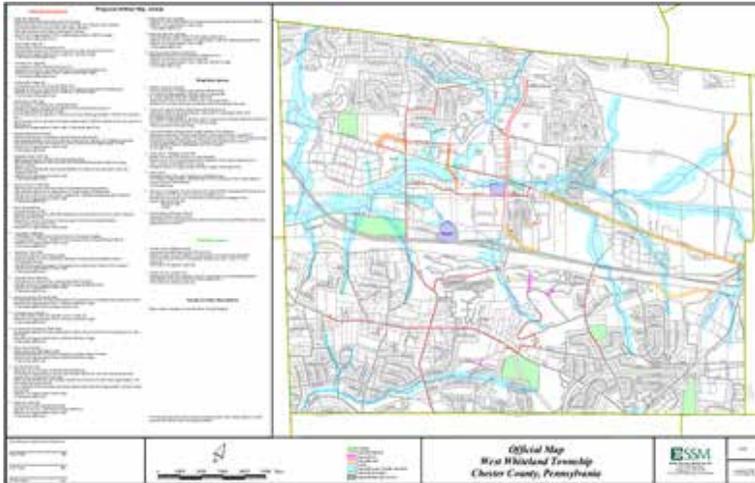
Relevant Comprehensive Plan Recommendations:

- C2.a Implement vehicular improvement projects identified on the Prioritized Vehicular Improvements Map, the City Avenue Official Map, and in commercial area/neighborhood master plans.
- C8.f Implement the City Avenue Official Map (Map C9), and update the map to extend the Cynwyd Heritage Trail from Cynwyd Station to Bala Station. Explore additional connections to the Cynwyd Heritage Trail at Union Avenue. Fully link the trails and public gathering spaces along the Cynwyd Heritage Trail and the Pencoyd Trail with trails and gathering spaces shown on the City Avenue Official Map.
- LR4.c Employ the Official Map to designate desired locations for future public open space.
- LI4.a Use the Official Map provisions of the Pennsylvania Municipalities Planning Code (MPC) to designate locations on appropriate institutional properties for future public facilities, including play fields.
- LC65 Recommendation Continue to refine the City Avenue District provisions and Official Map as necessary to ensure that future development is consistent with the established intent of the ordinance and desired land use and form of the district.
- LC66 Continue to refine the City Avenue District provisions and Official Map as necessary to ensure that future development is consistent with the established intent of the ordinance and desired land use and form of the district.
- LC67 Continue to refine the public gathering space standards and locations included in the zoning standards and on the Official Map to promote a functionally connected and unifying series of significant public gathering spaces. Identify locations for public actions/investments to complete the network.
- Open Space & Environmental Resource Protection Plan, 2005: Explore use of the Official Map to reserve future areas for recreation or open space use.

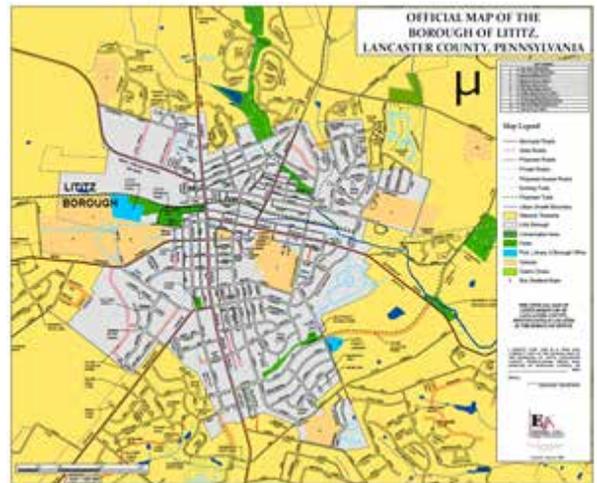
Relevant Existing Ordinance Sections:

- Chapter 34 – Planning Agencies Part II Planning Commission
 - 34-8 Powers and Duties
 - i. Shall, at the request of the Board, prepare and present recommendations for proposed amendments to the Official Map of the Township of Lower Merion for consideration by the Board and shall maintain the Official Map for the Board. [Added 4-25-2012 by Ord. No. 3972]
- Chapter 107 – Official Map
 - 107-4 Establishment
 - The following Official Map(s) are hereby adopted and incorporated by reference in this chapter and, taken together, shall be the Official Map of the Township of Lower Merion:
 - A. The Official Highway Map.
 - B. The City Avenue District Official Map.
- Chapter 135 Article IV Plan Requirements
 - 135-16 Tentative Sketch
 - B. (18) Where the property is designated on an Official Map, the plan shall contain the information shown on the enacted Official Map and set forth in § 107-5A, Map elements. [Added 4-25-2012 by Ord. No. 3972]
 - 135-17 Preliminary subdivision plan
 - B. (12) Where the property is designated on an Official Map, the plan shall contain the information shown on the enacted Official Map and set forth in § 107-5A, Map elements. [Added 4-25-2012 by Ord. No. 3972]
 - 135-19 Preliminary land development plan
 - B. (10) Where the property is designated on an Official Map, the plan shall contain the information shown on the enacted Official Map and set forth in § 107-5A, Map elements. [Added 4-25-2012 by Ord. No. 3972]
 - 135-22 Final subdivision, land development and lot line change plans.
 - B. (10) Where the property is designated on an Official Map, the plan shall contain the information shown on the enacted Official Map and set forth in § 107-5A, Map elements.[Added 4-25-2012 by Ord. No. 3972]
- Chapter 155-6.6
 - City Avenue District (Floor area incentive ratios)
 - Public gathering space
 - Multipurpose public paths
 - City Avenue District (Requirements)
 - Pedestrian way standards
 - Minor roads

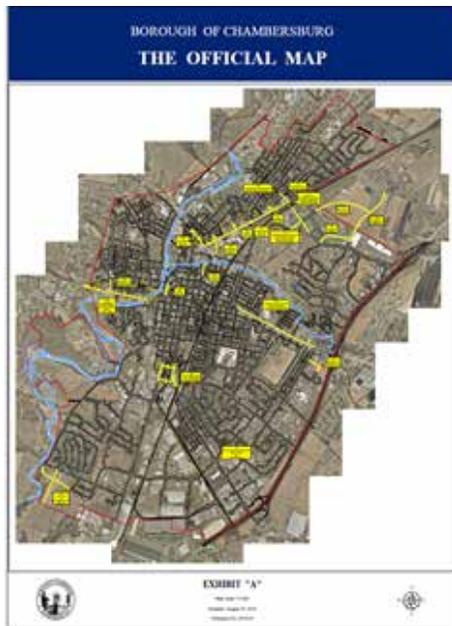
Local Examples (Control + Click to open larger map link):



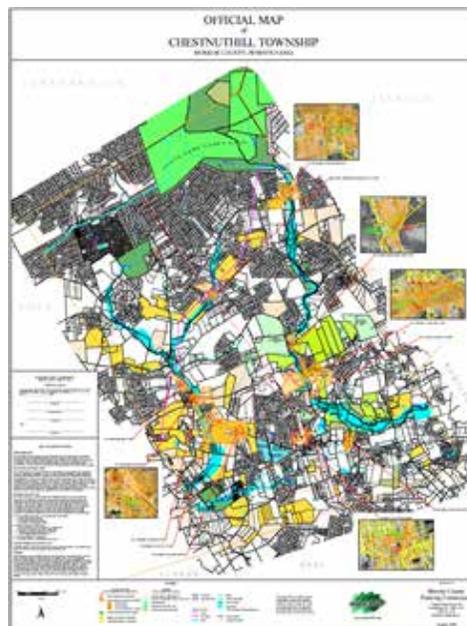
West Whiteland Township



Lititz Borough



Chambersburg Borough



Chestnuthill Township



Penn Township

3.e.

Impact Study Requirements

According to the International Association for Impact Assessment, an impact assessment is defined as:

a structured process for considering the implications, for people and their environment, of proposed actions while there is still an opportunity to modify (or even, if appropriate, abandon) the proposals. It is applied at all levels of decision-making, from policies to specific projects.

Impact studies/assessments are intended as decision-making documents that, when effectively written, identify a cost-benefit analysis of proposed actions associated with land development. An impact study/assessment provides quantifiable determinations to a decision-making process where qualitative characteristics like a “more vibrant downtown” or “better transportation system” are often desired. Examples include a community’s desire to preserve an historic district, limiting land disturbances in an environmentally sensitive area or induced stress on the transportation system, increased congestion and adaptations to traffic existing patterns.

Regardless of policy objective, impact studies and assessments are not indicators that have been universally endorsed by the Pennsylvania legislature. This section provides a broad insight to municipal impact studies/assessments, as broad interpretations to quantifying impacts on land development decisions have been debated. While some topics with specific consideration for impact assessment type like transportation impacts have been justified through universally accepted engineers’ standards reports, other socio-economic considerations such as fiscal and economic impact reports have been scrutinized for validity in the land development-decision making process.

It is recommended that the new Subdivision and Land Development Code (SALDO) enhance the traffic impact study standards to better reflect current best practices. It is also recommended that the Board of Commissioners consider whether to amend the SALDO to require an Economic or Community Facilities Impact Study.

Township Comprehensive Plan

The Township Comprehensive Plan synthesizes an immense number of objectives and goals within its Land Use Element concerning the concept of impacts. As a takeaway, the Conclusion from the Land Use Element section states:

The Land Use Element includes significant general recommendations to completely revise the Township's zoning and land development codes to accommodate revised ultimate population projections and to better address the impacts of infill and redevelopment upon the established community fabric.

Aside from recognizing the existing City Avenue Transportation and the Rock Hill Road Service Area, the Comprehensive Plan does not appear to directly identify address specific desire to implementing required impact statements. However, the intent of quantifying impacts and desire to better understand tangible effects from land development is heavily mentioned throughout the Land Use Element.

Lower Merion Township Perspective

Currently, the Township requires the following impact statements/assessments with a preliminary land development application:

- Environmental Impact Study
- Historic Resource Impact Study
- Traffic Impact Study
 - When a project is located within a designated Transportation Service Area (TSA), additional information may be required consistent with [Act 209](#). The TSA and respective impact fee assessment was a culmination of successive steps required under the Pennsylvania Municipalities Planning Code for the legitimacy of quantifiable fiscal impacts to the transportation network generated from land development.

[Article XI of the SALDO](#) currently addresses implications of Impact Fees. A critical component of the provisions include the establishment of a combined 2011 [Roadway Sufficiency Analysis and Transportation Capital Improvement Plan](#) and 2014 [Connectivity Plan](#) in support of a 2010 [Land Use Assumptions Report](#).

It should be noted that impact study/assessments appear to provide greater legitimacy has been enacted through reports/studies and capital plans.

Common Municipal Impact Studies

The validity to regulation of land use planning based upon impacts and associated fee system is based upon accepted standards for validity to impact assessment and studies adopted through

state legislature and vary throughout the Country. A number of accepted impact/assessment reports have been identified as incorporated requirements within municipal jurisdictions including:

- Economic
 - The purpose of an economic impact assessment is to estimate the changes in employment, income, and levels of business activity (typically measured by gross receipts or value added) that may result from a proposed project or program. Economic studies consider a range of economic effects that stem from changes in the composition of the regional economy, including impacts on jobs, employee compensation, and sales that are attributable to new economic activities, programs, or events. Studies commonly rely on Input-Output software models (e.g., IMPLAN or REMI) to estimate multiplier effects in the economy.
- Community Facilities Impact Study
 - The purpose of a Community Facilities Impact Study is to project the costs and revenues of governmental units that are likely to occur as a result of a development, policy, or program. The governmental units of primary interest generally are those local jurisdictions that may experience substantial changes in population and/or service demands as a result of the project. Fiscal impact analysis seeks to connect planning and local economics by estimating the public costs and revenues that result from property investments. This type of analysis enables the comparison of revenues to costs associated with new development indicating whether local government can meet new demands for services, or must raise taxes to meet new service demands.
- Health
 - A Health Impact Assessment (HIAs) is a systematic, six-step process that determines the potential health effects of a proposed action, such as a plan, policy, or project. The process incorporates multiple data sources and analytic methods, and considers input from community members, residents, experts, and other stakeholders to identify potential health impacts and how those impacts might be distributed within the population (International Association for Impact Assessment 2014).
- Historic Resource
 - A Historic Resource Impact Study (HRIS) is designed to delineate sensitive historic resources and identify the necessary measures needed to protect them. They are performed to discourage the unnecessary demolition of significant historic resources and encourage the conservation of historic settings and scenic corridors, vistas and landscapes.
- Transportation Impact Study/Assessment
 - A Transportation Impact Study/Assessment (TIS/TIA) studies to determine the traffic generation or circulation patterns in new developments; provided, however, that no studies may be required where the proposed development will not require a deviation from the land use assumptions used to create the program. They establish or assist in negotiating mitigation requirements where off-site impacts require improvements beyond those otherwise needed. Such reports also have been used by public agencies as the basis of levying impact fees or assessing developer contributions to roadway facility improvements.

Assessing the viability and complexity of implementing Impact Studies is an important factor in determination whether the effort is worth the return on investment.

Impact Assessment Contents

The contents of impact assessment report should generally address the following steps:

1. Prepare a Research Plan
 - a. Identify objective of adverse impact or challenge.
2. Contract and Staff the Impact Assessment
 - a. The newly researched objective must be documented and monitored.
3. Carry out the Field Research and Analyze Results
 - a. The second stage in research is analysis of whether policy is addressing intended results.
4. Disseminate the Impact Assessment Findings
 - a. Informing the public through reports and updates.

A critical component in the impact assessment assumes two research rounds, beginning with the initial analysis phase and the follow-up assessment of progress towards intended goals. Ultimately, a key component is establishing a threshold for which the Assessment/Study should be required.

Municipal Code: Examples

Phoenixville Borough, Chester County - Subdivision + Land Development Ordinance Impact Statements

Chapter 22 of the Borough SALDO addresses the establishment of “market analysis” required for land development based upon a threshold with requirements of Environmental, Traffic Impact, or Community + Fiscal Impact studies.

- Market Analysis §22-600
 - All commercial and industrial uses involving the use of a building of more than 5,000 square feet of floor area.
- Environmental Impact Analysis §22-601
- Traffic Impact Study §22-602
- Community + Fiscal Impact Analysis §22-603
- Analysis of the social and demographic characteristics of the proposed development in terms of future residents and users
- Cost/benefits of the development, including a profile of any possible Borough, county and/or school district revenues which the proposal may generate and any respective costs which it may create.
- Impact of the development on the community’s facilities, including schools, parks and recreational areas, libraries, hospitals, fire protection, police protection and ambulance and rescue services. In the case of parks and recreational needs.
- Identification of utility needs of the future residents and users of the site, including water.

3.f.

Process: De Minimus Plan

In order to streamline the approval process for small projects with a minimal impact it is recommended that a de Minimus Plan Process be considered with the new Subdivision and Land Development Code. De Minimus Plans may include lot line adjustments, simple conveyances, minor subdivisions, and minor developments under an established threshold.

Relevant Comprehensive Plan Recommendations:

- A key recommendation of the Comprehensive Plan was to provide standards to better address infill and redevelopment, and to improve the permitting and land development process.

Relevant Existing Ordinance Sections:

135-2 Word Usage; definitions.

LAND DEVELOPMENT: The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving: [Amended 2-16-1988 by Ord. No. 3078; 4-21-1993 by Ord. No. 3317]

1. A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential structure on a lot or lots, regardless of the number of occupants or tenure. [Amended 5-16-2007 by Ord. No. 3815]
2. The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features.
3. The transfer of air rights.
4. A subdivision of lands.

SUBDIVISION: The division or redivision of a lot, tract or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land, including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees, transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than 10 acres, not involving any new street or easement of access or residential dwelling, shall be exempted. "Subdivision" shall include the merger of two or more lots into a lesser number of lots and the mortgage of less than all of a lot. [Amended 3-16-1983 by Ord. No. 2022; 4-21-1993 by Ord. No. 3317]

135-7 – Tentative Sketch

Additional Resources: [Montgomery County Subdivision and Land Development Code Model Ordinance](#)

- Minor Plan and de Minimus Plan Standards and Process (page 33)

Highlighted Local Examples:

1. *Collegeville Borough*

- Threshold: Nonresidential property improvements which would, by their use, require less than five parking spaces with a maximum footprint of the addition being less than 1,000 square feet.
Exceptions:
 - Where the project has a previously recorded land development plan, the applicants must file an amended land development plan for the record.
 - Up to three de minimus improvements may be approved as long as the cumulative additions do not exceed the established threshold and that the cumulative improvements require less than five parking spaces and the total footprint of the de minimus improvements does not exceed 1,000 square feet.
- Permitting Process:
 - A building permit application is submitted.
 - Upon completion of the appropriate staff review, if the applicant agrees in writing to the conditions, improvements, and/or requirements determined by the review, the application will be approved and the appropriate permits will be issued.
 - In the event that the applicant does not agree with the review conclusions, the application is deemed denied and the applicant may elect to resubmit the application under the standard land development procedures as set forth herein.

2. *Norristown Borough*

- Threshold: Nonresidential property improvements which would, by their use, require fewer than five parking spaces, with a maximum footprint of the addition being less than 1,000 square feet. De minimus improvements do not include improvements that require significant increases in water and/or sewer connections, capacities or flows, earthmoving activities to remove or demolish a building or parts thereof or to erect a new building, which requires grading of any sort.
- Permitting Process
 - A building permit application is submitted.
 - Upon completion of the appropriate staff review, if the applicant agrees in writing to the conditions, improvements, and/or requirements determined by the review, the application will be approved and the appropriate permits will be issued.
 - In the event that the applicant does not agree with the review conclusions, the application is deemed denied and the applicant may elect to resubmit the application under the standard land development procedures as set forth herein.

3. *Lower Providence Township*

- Threshold: An applicant for an improvement on an existing developed lot which will not involve an increase to impervious surface by 10%, or 2,000 square feet, whichever is less.
- Process
 - Submit a de minimis improvement application, a building permit application, associated costs and any changes to be made to the land. The Township Manager, or his designee, shall review the application pursuant to all applicable Township ordinances.
 - Upon completion of the appropriate review, the applicant shall agree, in writing, to those conditions, improvements and/or requirements as determined by the review; upon the applicant's agreement, the application will be approved.
 - In the event that the applicant does not agree with the review conclusions, the applicant agrees that the application shall be withdrawn. The applicant may elect to amend and resubmit the application under the standard land development procedure.

Additional Local Examples:

4. *Upper Moreland Township*

5. *Upper Gwynedd Township*

6. *Cheltenham Township*

7. *Schwenksville Borough*

