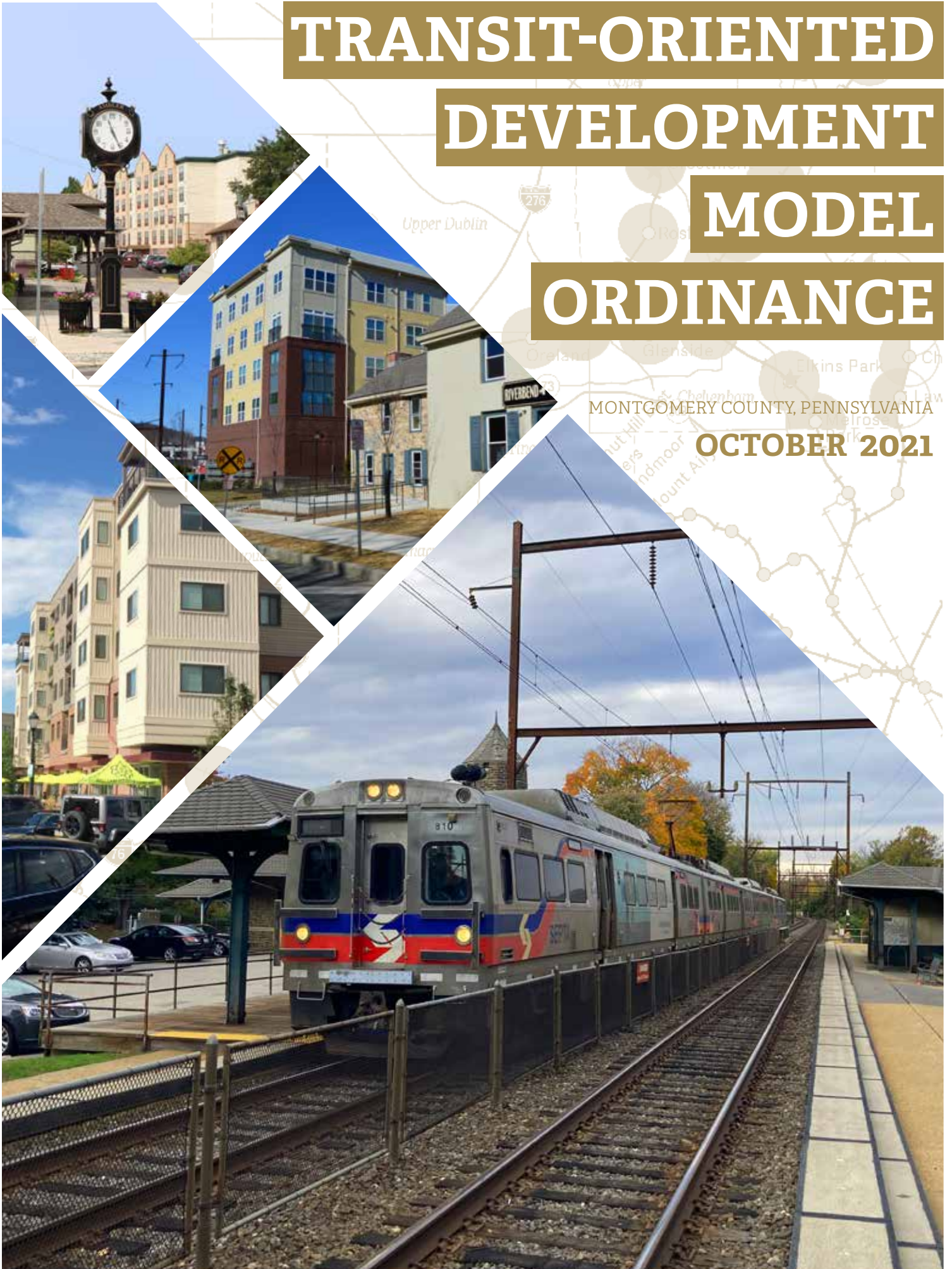


TRANSIT-ORIENTED DEVELOPMENT MODEL ORDINANCE

MONTGOMERY COUNTY, PENNSYLVANIA

OCTOBER 2021



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**TRANSIT-ORIENTED
DEVELOPMENT
MODEL
ORDINANCE**

OCTOBER 2021

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WHAT IS TRANSIT-ORIENTED DEVELOPMENT?



MCPC encourages municipalities with transit access, especially Regional Rail stations, to consider planning for and encouraging a greater density of development and mixture of land uses around transit resources. This document outlines background information, design best practices, and model ordinance language to help municipalities plan for transit-oriented development in their communities.

Transit-oriented development (TOD) is dense residential and commercial development near transit that is meant to increase the use of public transit and alternative modes of transportation. Promoting development concentrated near transit expands opportunities to connect people and places throughout Montgomery County, Pennsylvania and the Greater Philadelphia region.

Walkable, mixed-use developments can be developed anywhere, but a true transit-oriented development concentrates people and activity around transit and ensures safe and convenient transit access and other transportation options for all people.

The existing transit network in Montgomery County is home to 43 Regional Rail stations on six lines of the Southeastern Pennsylvania Transit Authority (SEPTA) regional rail network, and six stations on the Norristown High Speed Line, serving both daily commuters and occasional riders. Rail lines provide convenient



Two new developments near the Cynwyd Station have increased residential density and walkability in the Bala Village area of Lower Merion Township.

USING THIS DOCUMENT

*This document provides information and a framework for how communities can encourage development designed to take advantage of transit access and support increased transit ridership. **Section 1** includes an overview of transit-oriented development and regional trends such as ridership levels and land development activity. **Section 2** provides a description of the five types of station areas located within the county, as well as new building types and land use mix that would be most appropriate for each station area typology. **Section 3** highlights five key design elements and best practices for successful TOD projects. **Section 4** contains model ordinance language for communities that wish to encourage TOD, with different options based on station area typology. The **Appendices** include an example of how to implement the model TOD ordinance and station area typologies using the Moore Park area of Upper Merion Township and the proposed King of Prussia Rail project. Also included in the **Appendices** are a list of stations by station area typology and a list of resources for additional information.*



In the Glenside neighborhood of Cheltenham Township, a café located in the historic station building helps activate the station area (left) and wayfinding signage directs people to the station (right).



access to Center City Philadelphia, the Philadelphia International Airport, and connections to Amtrak and NJ Transit. In addition, significant employment destinations have developed around several regional stations, making reverse commuting an increasingly common occurrence. Supporting thoughtfully-designed, mixed-use development around the county's transit stations can improve mobility across the increasingly diverse, growing region. In addition to increased transit ridership, TOD can have economic benefits for communities. Variety in the physical design and a mix of uses helps create a sense of place, enlivens the streets, and benefits the local economy by promoting infill development and attracting residents and retail.

MONTGOMERY COUNTY'S TOD DEFINITION:

Transit-oriented development capitalizes on public transit access by transforming underutilized spaces into walkable and sustainable communities, with a mix of land uses, a vibrant public realm, and excellent connectivity to transit amenities.



The land closest to the North Wales Station in North Wales Borough is currently used for commuter parking, as is common across Montgomery County.

MONTGOMERY COUNTY'S TOD VISION STATEMENT:

Montgomery County recognizes that public transit serves a wide variety of landscapes and built environments throughout our municipalities and wishes to provide guidance on making the most of this valuable and beneficial asset through context-sensitive solutions that could make new development around existing and planned transit stations more 'transit-oriented.'

Why Should We Encourage Transit-Oriented Development?

Montgomery County is a very attractive place to live and work. The combination of jobs, opportunity, transportation infrastructure, and broad housing choices have sustained the county's growth over many decades. This growth is not slowing down as our attributes become even more desirable to new generations. Despite being the third largest county in the state, and the largest after the two major cities are counted, the 2020 Census revealed that our population had increased by 7.1% since 2010, outpacing the previous 2000-2010 decade which gained 5.1%. Over 56,000 more residents joined our communities in the last decade.

Over the last twenty years, the Planning Commission and our municipalities have navigated through consecutive comprehensive plans with a strategy that has sought to encourage market-rate growth in the areas that are best suited to facilitate it with existing infrastructure. This approach serves to preserve greenways and critical natural resources, while building-up our employment centers, downtowns, and retail nodes. Maximizing land development potential around our transit stations is one of the more sweeping and effective measures to reach these goals, with the added bonus of reducing the number of vehicles that would otherwise be traveling on county roadways.

These benefits are not only realized at county and regional levels, but municipalities stand to gain as well. The market support gained through redevelopment around transit will provide substantial rateables to the local tax base, which can alleviate the financial pressure on existing property owners and residents. In 2020, the assessed value for all land within a ½-mile of a transit station was approximately \$11.5 Billion, which accounts for over 18% of the total assessed value in all of Montgomery County. Given that the land area within a ½-mile of a transit station is only 8% of the county's total land area, *development near transit already accounts for over twice the taxable value of standard tracts of land.*

Zoning that supports appropriate and well-designed intensification around transit centers can further magnify the market value and tax base. Lower Merion Township's planning department considered some of its recent redevelopment projects and observed these benefits in reality. One example is the neighboring apartment and condominium properties on Sibley Avenue next to Suburban Square and the Ardmore SEPTA station. These two buildings were redeveloped on the site of a



Apartments and condominiums built on Sibley Avenue in Lower Merion Township near the Ardmore Train Station.

former beverage warehouse. The annual municipal tax revenue after redevelopment increased by over \$50,000 while the school district gained \$338,478.

Economic returns come from both intensification of use, as well as the market influence of mixed-use development in an urbanized walkable environment. New residents with "feet on the street" can drive commercial profits for existing restaurants and retail and also support new businesses locating to the area.

There will be costs and other challenges that need to be considered with this type of growth. New development and new residents will bring new children and new cars to an area, but a municipality would do well not to overestimate impacts such as traffic, parking, and school-age children from mid-to-high density residential development around transit. The Delaware Valley Regional Planning Commission recently conducted extensive research on the community impacts of multifamily development, including specific data on suburban TOD sites.¹

Advocacy for transit-oriented development does not lend itself to a universal scale of development for every area next to a rail station. However, every transit area can provide a scope of development that results in efficient growth management, economic vitality, and reduced environmental impact when taken as-a-whole across the municipal and county landscape.

1 DVRPC. "Community Impacts of Multifamily Development." <https://www.dvrpc.org/SmartGrowth/Multifamily/>

TOD TRENDS IN MONTGOMERY COUNTY

SECTION



Introduction

A significant number of places throughout Montgomery County have already embraced the benefits offered by transit-oriented development (TOD), aided by ongoing and targeted investments in transit infrastructure and a strong market interest in mixed-use development.

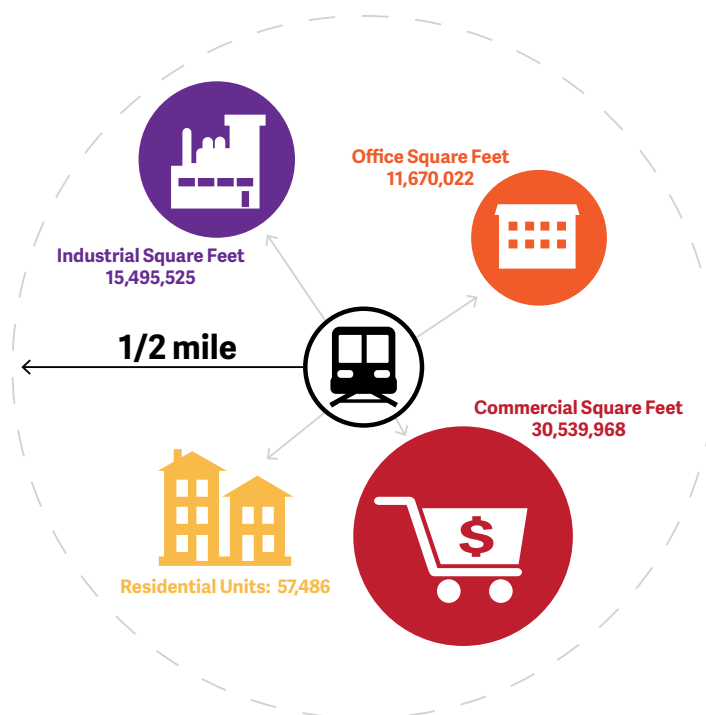
Since high-quality transit access is a prerequisite for successful TOD, SEPTA has strived to improve service and stations throughout their service area, allowing for joint projects with other partners including Amtrak, PennDOT, and private developers. Municipalities are then able to build upon SEPTA's upgrades, in terms of physical improvements in and around station areas, through policy choices in planning and land development ordinances to encourage transit oriented development. In addition to encouraging transit ridership, many communities see TOD as both an economic revitalization tool and a way to accommodate additional housing in parts of their community where infrastructure is already in place to accommodate it.

This chapter summarizes current transit conditions and trends and highlights land development activity around the county's many train stations.

Land Development Activity

Montgomery County has been experiencing a rejuvenation in development activity in many of its urbanized town centers based on the popularity of mixed-use infill development in walkable areas. While not all of these areas offer transit opportunities, those that do are even stronger magnets for developers looking to maximize the benefits of their properties to residents. Based on the last detailed census in 2010, there were 165,213 residents of Montgomery County living within a 1/2-mile of a train station.

FIGURE 1: LAND USE CHARACTERISTICS WITHIN A HALF-MILE OF TRAIN STATIONS



Source: Montgomery County Board of Assessment Appeals

That equates to approximately 20% of the county's population living within only 8% of the county's total land area. That density is more remarkable when recognizing that the land around train stations is also home to significant amounts of retail, office, and industrial land uses (see Figure 1 on the previous page).

The booming segment of the construction market in Montgomery County is for multifamily apartments, and this type of development often makes sense in and around transit. Since 2010, over 8,000 residential units have been proposed within a 1/2-mile of a train station in the county. Almost half of those units have already been built with many more in the pipeline.

Nonresidential construction is also popular in transit areas. Over 5.5 million square feet of nonresidential construction has been proposed within a 1/2-mile radius of train stations in Montgomery County since 2010. Traditionally, the surrounding counties' relationship to Philadelphia has been for people to live around stations in the suburbs and commute into the city. Today, that pattern is often flipped and many city residents are reverse-commuting to jobs out in the suburbs and in town centers.

Overall, development interest around the county's transit infrastructure and in town centers remains high and communities that wish to take advantage of these market-driven opportunities should consider updating their zoning around their train stations to permit greater density and require good design that augments transit accessibility.

Transit Service Overview

Three of SEPTA's transit modes operate within Montgomery County: commuter rail (known locally as Regional Rail), interurban light rail (the Norristown High Speed Line), and buses (see Map 1 on the following page). Choices regarding transit-oriented development should be made on a mode-by-mode basis, as each type of service can offer significantly different levels of accessibility and require substantially different levels of infrastructure around each station or stop location.

REGIONAL RAIL

Seventeen Montgomery County municipalities are currently served by 43 SEPTA Regional Rail stations along six lines, though nine additional municipalities have Regional Rail stations within a 1/2-mile distance of their border.

Ridership

According to SEPTA's 2020 Annual Service Plan², which uses ridership data from fiscal year 2017, average weekday boardings and alightings total nearly 40,000 across all 43 train stations in Montgomery County (see Map 2 on page 10).

Taken together, the 16 stations along the Lansdale/Doylestown Line in Montgomery County account for almost half of the county's total Regional Rail trips. The Jenkintown-Wyncote Station, which is also served by the Warminster line and the West Trenton line, has 2,948 daily passengers, making it the busiest station in Montgomery County, and the sixth busiest in SEPTA's Regional Rail system. The top ten busiest stations in Montgomery County in terms of total ridership are shown in Figure 2 on page 11.

When considering the potential for transit-oriented development around a station, it is important to consider total daily boardings and alightings because not all riders will make the same round trip on transit based on scheduling, proximity, and trip purpose. In addition, each time a transit rider gets on or gets off a vehicle, they are interacting with the station's built environment; therefore, total boardings and alightings give a complete sense of the total count of "passenger interactions" in a given day.

Montgomery County's long-term Regional Rail ridership has been trending upward over the past two decades. Ridership across the 43 stations has increased 49% since 1997, with 36 stations seeing higher passenger volumes than in 1997. However, ridership in 2017 was down 7% from 2015, perhaps due to lingering effects from SEPTA's Silverliner V railcar outage and subsequent service changes in 2016.

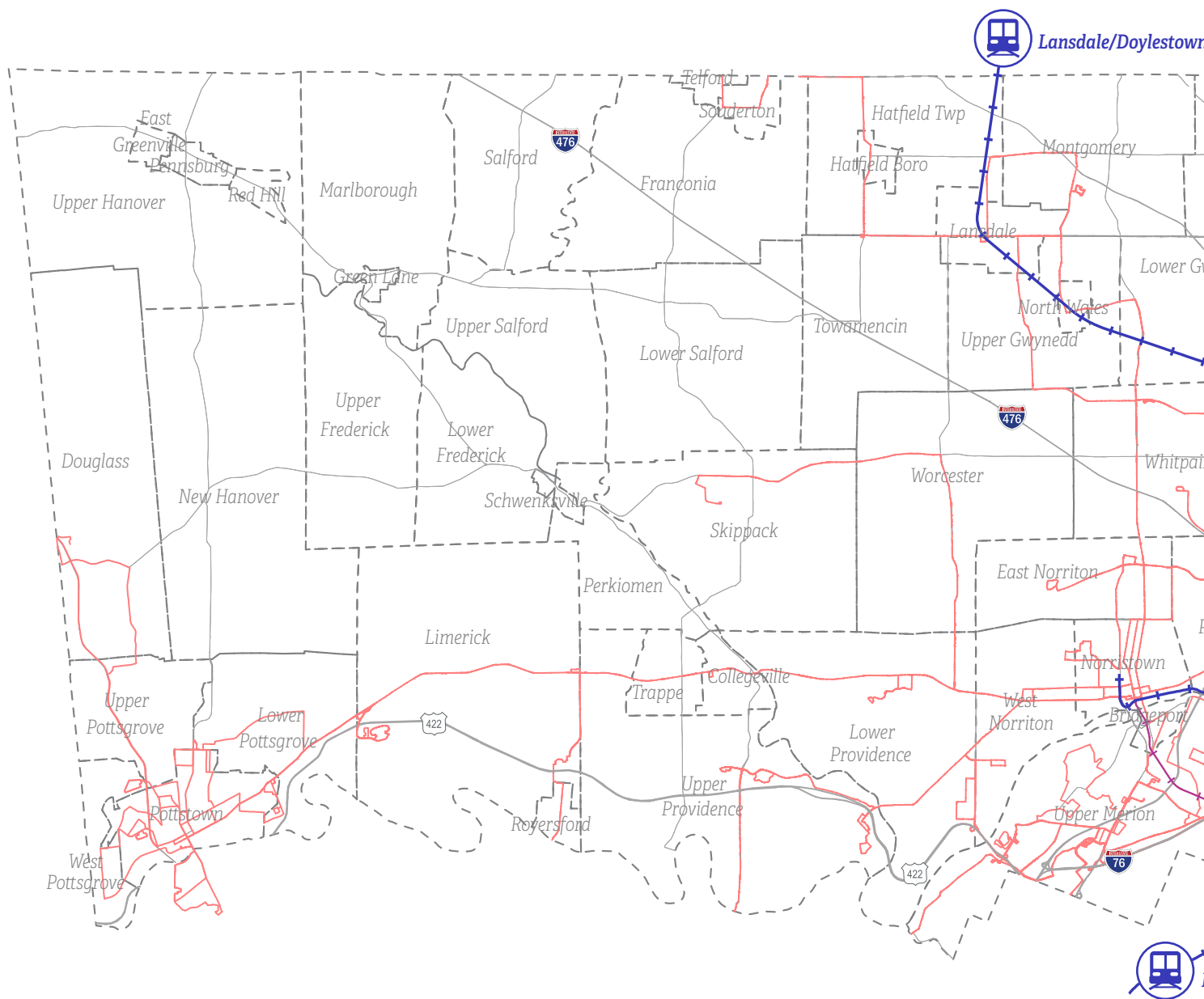
Service Frequency

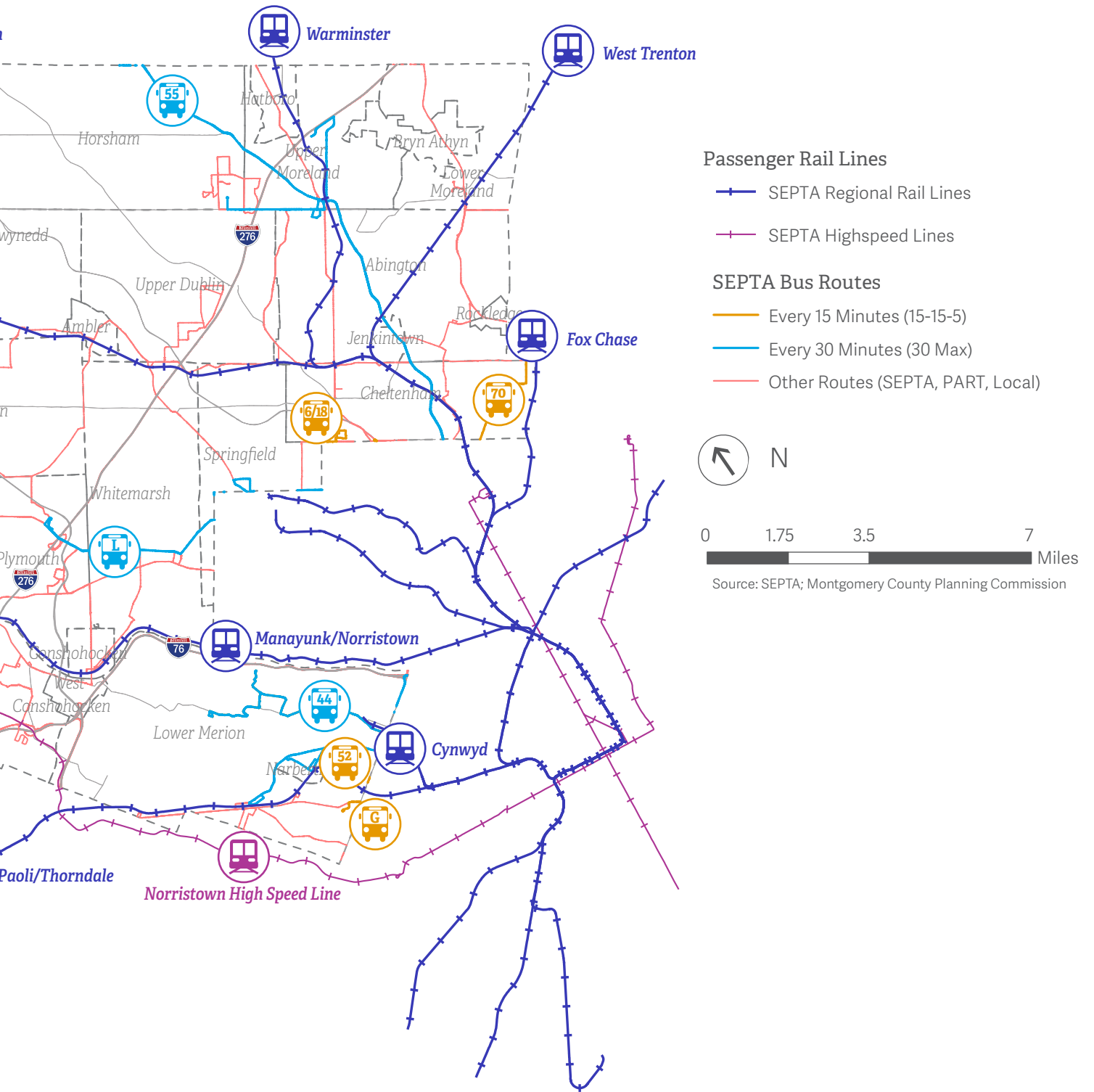
In Montgomery County, Regional Rail service frequency varies widely across the six regional rail lines, which has ramifications for potential TOD intensity and land use patterns. The Lansdale/Doylestown and Paoli/Thorndale lines offer some of the highest service frequencies in SEPTA's Regional Rail system. Morning rush hour service at Lansdale peaks at seven trains within a 90-minute time span, with certain trains expressing from Fort Washington station all the way to Temple University, covering the distance in as little as 23 minutes. Service during the rest of the day on these lines is roughly every half hour, while hourly service is typical on the other lines. The exception is the Cynwyd line, which runs during peak commuting hours to Suburban Station.³

² SEPTA, "Fiscal Year 2020 Annual Service Plan," 2019. <https://planning.septa.org/wp-content/uploads/2021/02/Annual-Service-Plan-FY2020.pdf>

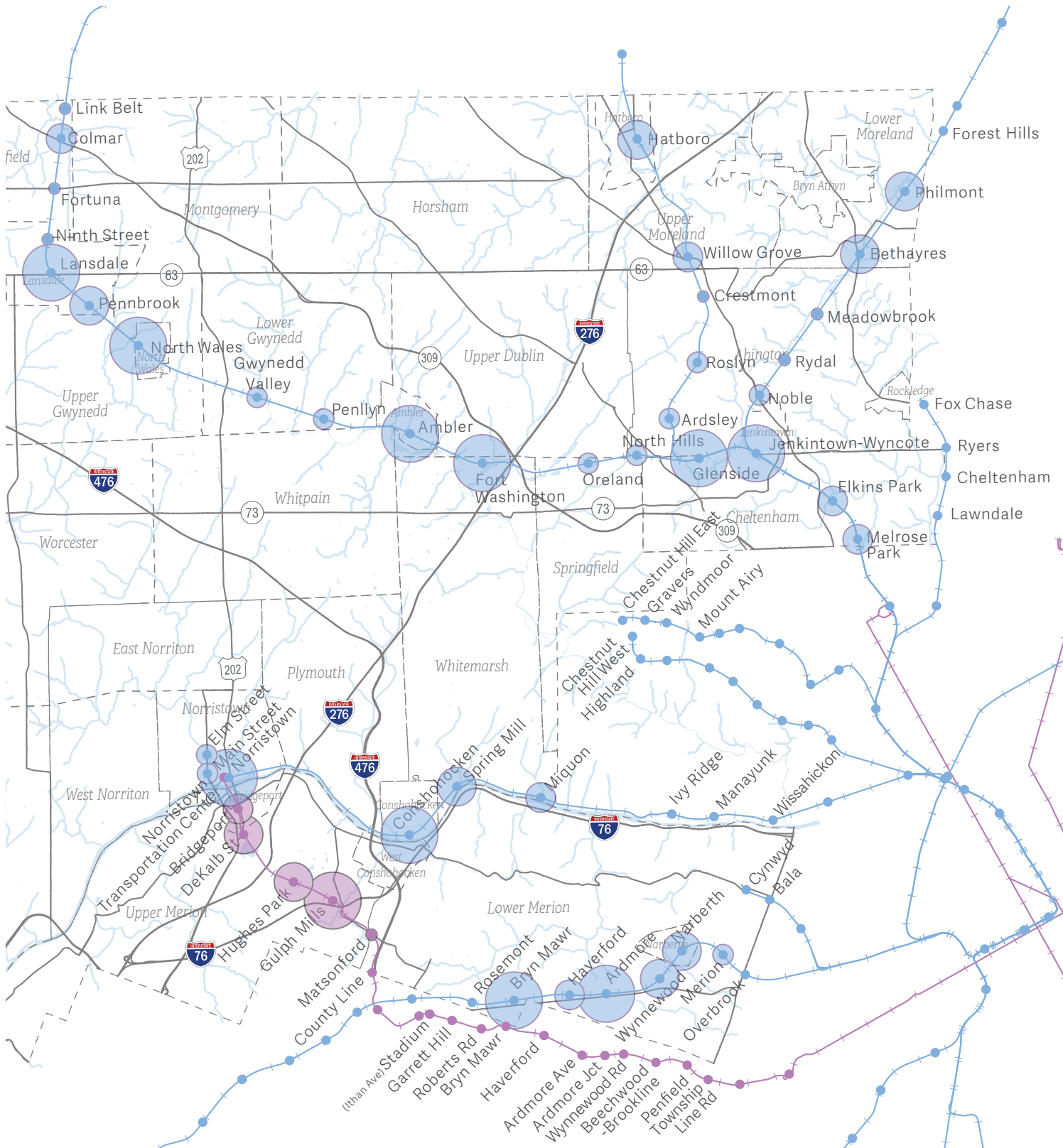
³ Cynwyd Line service was suspended by SEPTA due to the COVID-19 pandemic and has not been reinstated as of this publication.

MAP 1: SEPTA NETWORK AND BUS ROUTES WITHIN MONTGOMERY COUNTY





MAP 2: MONTGOMERY COUNTY REGIONAL RAIL AND NORRISTOWN HIGH SPEED LINE RIDERSHIP



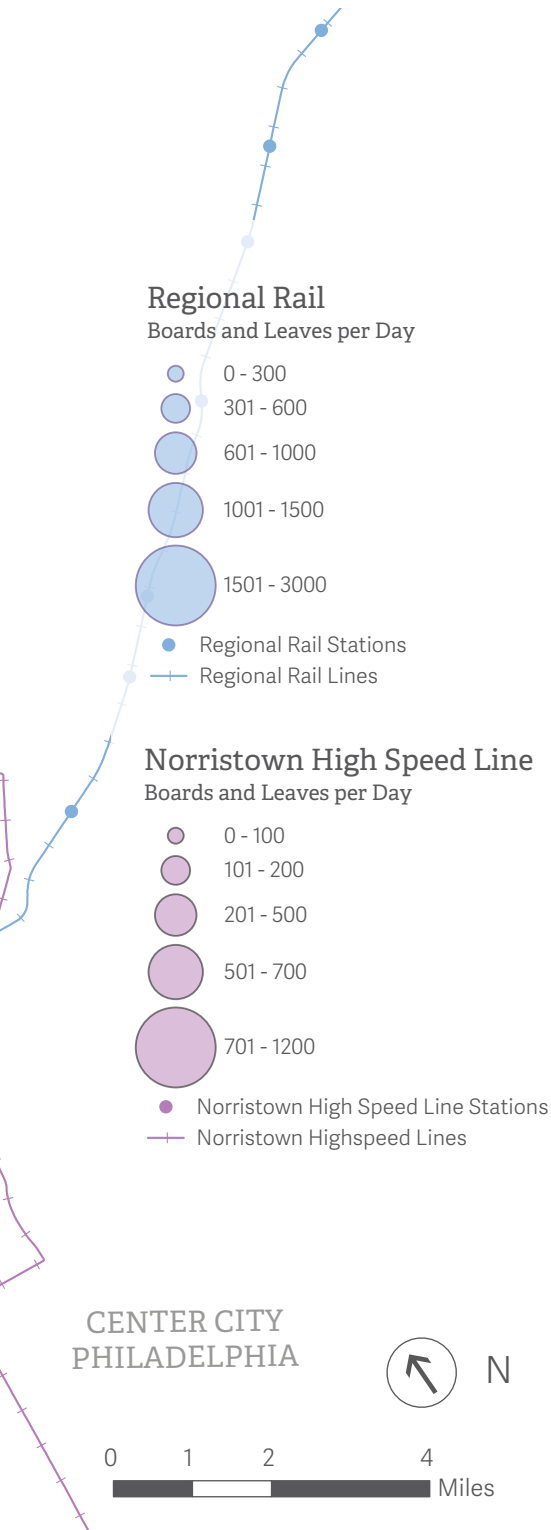
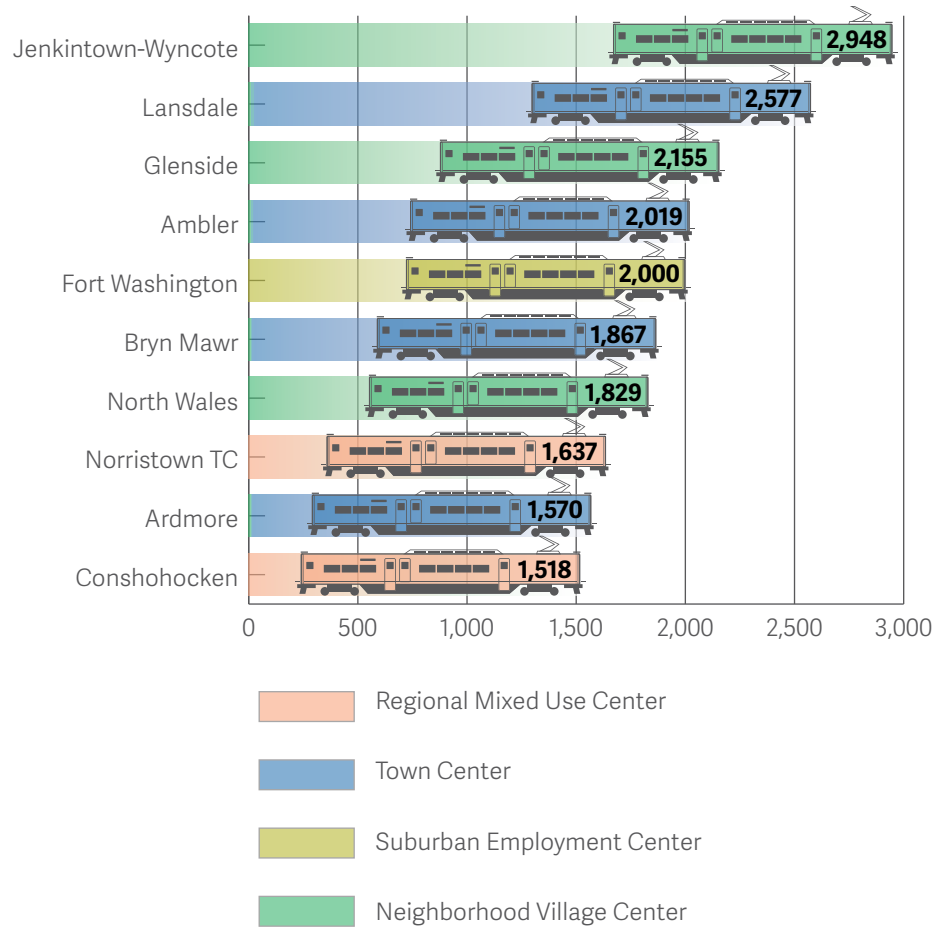


FIGURE 2: TOP 10 REGIONAL RAIL STATIONS IN MONTGOMERY COUNTY BY TOTAL RIDERSHIP



Source: SEPTA (FY 2018 Ridership)

Source: SEPTA (FY 2018 Ridership); Montgomery County Planning Commission

Additional Outlying Stations

A number of the Regional Rail stations in SEPTA's system are just over a county boundary, which would allow for the positive effects of transit-oriented development to spill over into Montgomery County. For example, the Fox Chase station in Philadelphia (the seventh busiest in the system) is less than 1,500 feet from Rockledge Borough, and the Villanova station is just over the border from Lower Merion Township. Regional Rail stations have a large area of effect on their surrounding communities, and those stations nearby but not explicitly within a municipality should not be ignored when drafting regulations and zoning codes.

Those Regional Rail stations located within 1/2-mile of Montgomery County are assigned a station area typology in Map 5 on page 20 to encourage TOD planning for those areas that are within walking distance of a transit station, even if the station itself is located outside of Montgomery County.

NORRISTOWN HIGH SPEED LINE

In addition to heavy-rail service, SEPTA runs an interurban electrified trolley service between Norristown and the 69th Street Transportation Center in Upper Darby.

Ridership

Montgomery County has six Norristown High Speed Line (NHSL) stations in Norristown, Bridgeport, Upper Merion, and Lower Merion, with a total number of daily passenger visits of 5,476 as of SEPTA's fiscal year 2018.⁴ The Norristown Transportation Center, as one of the two termini of the line, has over half of the service's daily boardings and alightings in Montgomery County, though the Gulph Mills station is the busiest station between the two termini with 1,157 daily passenger trips, in part due to its available connections to suburban bus lines.

Service Frequency

Norristown High Speed Line service is incredibly robust, with trolleys running 22 hours a day, 7 days a week. Outbound express services during the morning rush hour are convenient for "reverse commuters" traveling away from Center City and towards suburban employment locations. This reflects the current development pattern of land uses along the line, though future transit-oriented development could lead to changes in scheduling. Rush hour service is roughly every ten minutes to Hughes Park and every twenty minutes to Norristown outbound from 69th Street Terminal, while off-peak service is every half-hour in each direction.



The Norristown Transportation Center brings together Regional Rail, the Norristown High Speed Line, and multiple SEPTA bus routes.

4 SEPTA, "Fiscal Year 2020 Annual Service Plan," 2019. <https://planning.septa.org/wp-content/uploads/2021/02/Annual-Service-Plan-FY2020.pdf>

Additional Outlying Stations

Although only six NHSL stations are located in Montgomery County, many of the NHSL stations located in adjacent Chester and Delaware counties are less than a 1/2-mile from the county line. As an example, the Bryn Mawr station is just steps away from County Line Road and Bryn Mawr Hospital in Montgomery County (see Map 3 below).

Each of the NHSL stations either in Montgomery County, or within a 1/2-mile of Montgomery County, are incorporated into the station area typology map (Map 5 on page 20) and could be evaluated as areas to encourage further transit-oriented development to take advantage of the line's frequent serve and connections to both Center City and suburban destinations.

CITY AND SUBURBAN BUSES

In total, 44 bus routes run throughout Montgomery County. Many of these routes offer hourly service reflecting standard suburban service guidelines.

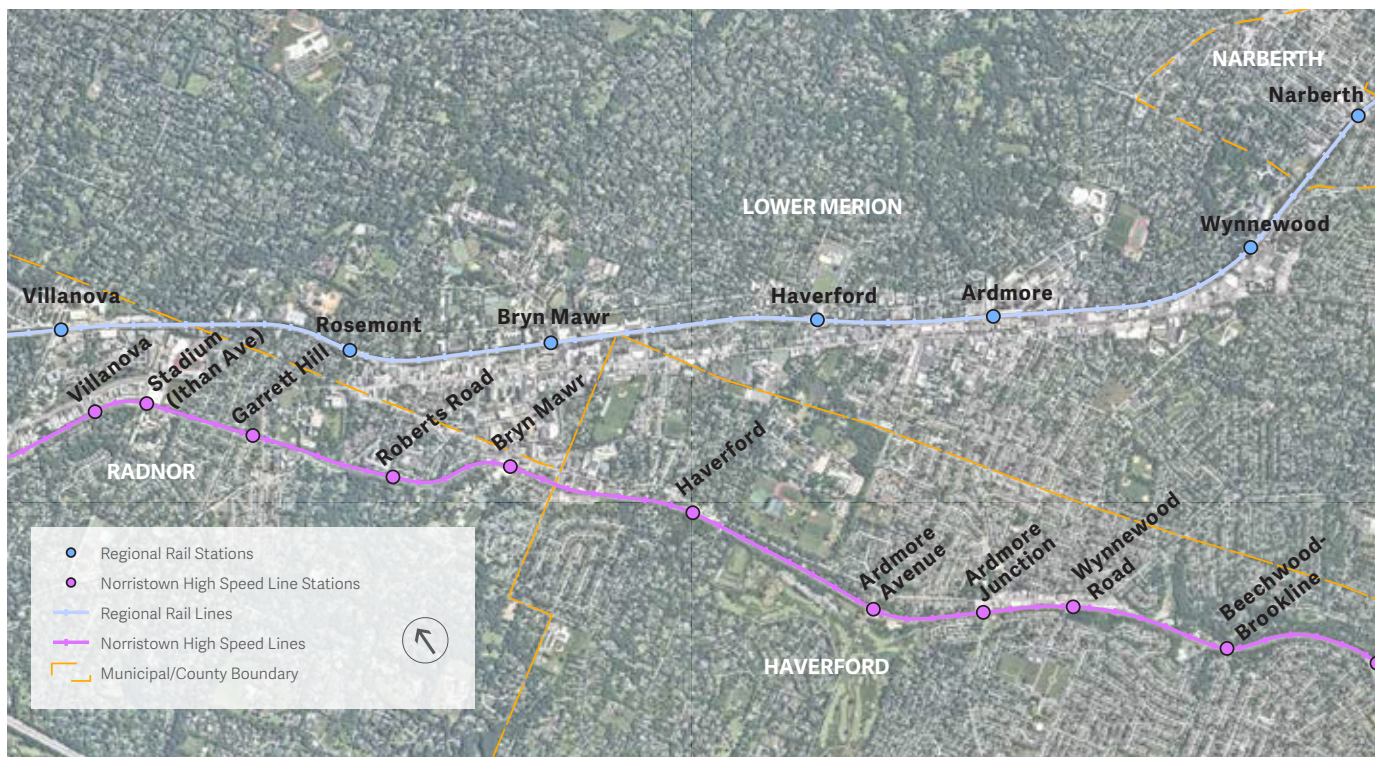
Map 1 on page 8 shows rail and bus routes in Montgomery County, with a particular emphasis on the SEPTA bus routes that exceed

current suburban service standards. SEPTA operates five routes in Montgomery County with "15-15-5" frequency (shown in gold), meaning service every 15 minutes, 15 hours a day, 5 days a week, and 3 routes with "30 Max" frequency (shown in light blue), with service every 30 minutes, 15 hours a day, 5 days a week.

Although the model TOD ordinance language in Section 4 is written to apply to the immediate area around rail stations, some of the "15-15-5" and "30 Max" routes could also be good candidates for transit-oriented development as they provide the reliability and frequency of transit access to help incentivize reduced single-occupancy vehicle use.

Other suburban bus routes are notable for their high passenger volumes, even with service below the "30 Max" standard. Bus routes serving the King of Prussia Mall, especially Routes 124 and 125 offering direct service from Philadelphia, are consistently among the highest ridership of bus lines in the suburbs. The Route 125 averages 2,200 riders daily, making it the ninth busiest route in SEPTA's suburban bus system, while the Route 124 is the eleventh busiest. However, since these routes largely utilize the congested Schuylkill Expressway (I-76) to travel from Philadelphia to Upper Merion Township, on-time performance is among the lowest in SEPTA's system.

MAP 3: PROXIMITY BETWEEN PAOLI/THORNDALE REGIONAL RAIL LINE AND NORRISTOWN HIGH SPEED LINE IN LOWER MERION TOWNSHIP



Even if service standards along suburban bus routes do not allow for development around bus stops to be transit-oriented, there are numerous steps municipalities can take to allow these locations to be transit-friendly and transit-accessible. These ideas are explored further in Section 3, Design Elements, of this document.

Transit Expansion Efforts

Montgomery County has worked with SEPTA to increase transit service through both route expansion, as well as daily operations. New and better facilities, as well as new and more frequent service, allow municipalities to utilize their transit infrastructure in ever-improving ways.

ROUTE EXPANSION & IMPROVEMENTS

New Rail Stations

The largest addition to Montgomery County's transit facilities during the 21st century so far is the addition of the Lansdale 9th Street Station as an infill station along the Lansdale/Doylestown Regional Rail line. This station was originally constructed in 2015 as an overflow parking lot area during the construction of the Lansdale Station parking garage, though it traces its origins a decade earlier to a development agreement in the mid-2000s, when space for the station was set aside as part of larger plans for a transit-oriented development. Though the land around the station has not yet been developed, the station is now operational.



The parking garage at the Lansdale Station opened in 2017. A pedestrian bridge connects the garage to the Madison Lansdale Station mixed-use development across the railroad tracks.

Parking Expansion

One strategy to attract more suburban riders to SEPTA services is ensuring that those who do not currently live within walking distance of a station are able to drive to a station parking lot and park their cars before riding. Montgomery County Regional Rail and Norristown High Speed Line stations currently offer over 8,800 parking spaces. SEPTA has added over 4,000 parking spaces to stations in Montgomery and Bucks counties since 1993 to service riders throughout their northern service area. These parking resources help to encourage train ridership and divert vehicular traffic from regional highways and roads.

SEPTA is also planning to expand their commuter parking availability at a number of Regional Rail stations in the county. According to SEPTA's fiscal year 2021 capital budget⁵, parking lot expansions are planned for Gwynedd Valley, Philmont, and Willow Grove stations. In addition, SEPTA has plans for new parking garages at the Ardmore, Conshohocken, and Noble stations. These parking improvements provide the opportunity for SEPTA and the local municipalities to work together on designing station areas that support commuter traffic as well as neighborhood connections and walk-up passengers.

The Conshohocken garage is also an important piece of an even larger multi-modal transportation project: the Interstate 76 Integrated Corridor Management (or I-76 ICM) effort. As part of efforts to reduce congestion on I-76 between King of Prussia and Center City Philadelphia, message signs along the highway



A parking garage accommodating 513 vehicles opened at the Norristown Transportation Center in 2008. The garage services riders on Regional Rail, the NHSL, and eight SEPTA bus routes.

5 SEPTA, Fiscal Year 2021 Capital Budget (2020). <https://planning.septa.org/wp-content/uploads/2021/02/Capital-Budget-FY2021-Capital-Program-FY2021-2032.pdf>

will advertise spaces available at the Conshohocken parking garage, as well as train arrival times, in order to encourage drivers to park and ride the train into the city. This allows the entire Conshohocken station complex to serve as both a significant park-and-ride station and a focus area for TOD to accommodate those living in the immediate area.

High-Level Platform Enhancements

Another major priority for SEPTA's capital budget is to refurbish their Regional Rail stations to include "high-level platforms", or platforms that are flush with the train car floor to improve ADA accessibility and allow for ease and speed of passenger boarding. While a number of stations have been refurbished throughout the system already, most notably along the Lansdale/Doylestown Line, many stations still contain "low-level platforms" that require climbing steps when boarding the train car or using an ADA-accessible platform ramp that are only available at select stations. As SEPTA continues to install high-level platforms across their system, there may be opportunities to look at broader station impacts, including pedestrian access from outside of the station area.

MONTCO 2040 TRANSIT VISION PROJECTS

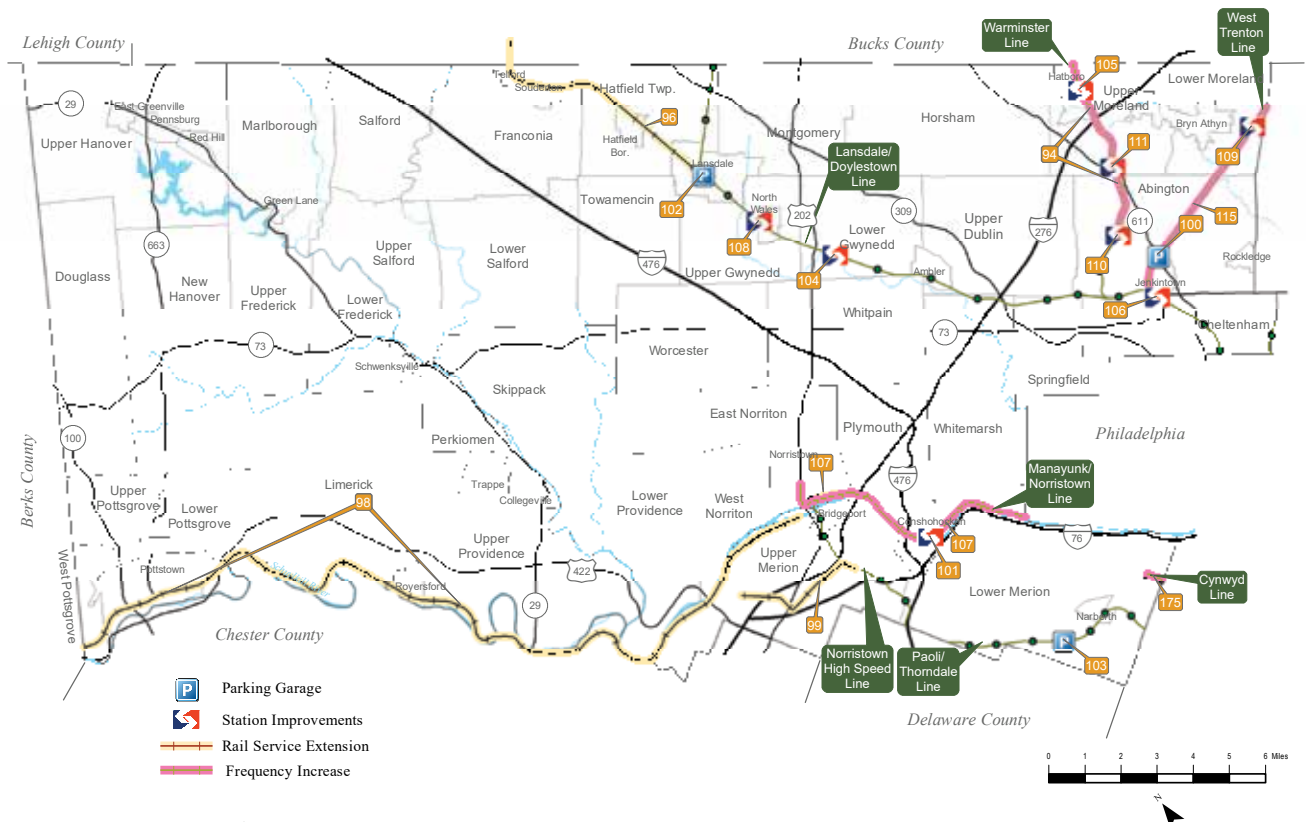
While they are not included in SEPTA's current capital budget, Montgomery County's comprehensive plan *Montco 2040: A Shared Vision* has four transit vision projects which would improve or restore train service (see Map 4 below).

These projects include service restoration north from Lansdale along the Bethlehem Line into Bucks County, and west from Norristown to Pottstown and Berks County. Previous Regional Rail services were suspended on these train lines in 1981 as part of SEPTA's discontinuation of diesel operations.

Several boroughs in Montgomery County, such as Hatfield, Souderton, Telford, Pottstown, and Royersford, could become focal points for true transit-oriented downtown development if rail service was restored to these locations.

Finally, the Norristown High Speed Line has a proposed extension to King of Prussia. This project and the potential for TOD around the proposed stations along the KOP Rail line is discussed in Appendix A of this document.

MAP 4: MONTCO 2040 PROGRAMMED AND VISION TRANSIT PROJECTS



Source: Montgomery County Planning Commission

OPERATIONAL ENHANCEMENTS

In addition to SEPTA's efforts to improve their physical infrastructure, the transit agency has a number of operating enhancements and modifications in the works which would help to support additional TOD potential in suburban areas. These enhancements cover a wide range of SEPTA's interactions with its riders, from the fare payment process to where and when service runs.

SEPTA is faced with the same challenges as many transportation service providers in a post-COVID-19 world by attempting to provide the best service for its passengers (including those deemed essential) while facing significant budget constrictions. However, these new challenges may also present an opportunity for SEPTA to transform their services in a positive direction to ensure that they are available and usable for the community that needs them.

Fare Payment System



The process for SEPTA to enact their electronic fare payment technology, known as SEPTA Key, took several years, with the final step of integrating with the Regional Rail ticket system taking place in the summer of 2020. With electronic payments now available for all forms of transit in the system, SEPTA will be able to understand ridership patterns and passenger routes in far more detail. In addition, the simplification of transit payments into one format makes it easier for cross-modal transfers to take place (from train to bus, for example).

Comprehensive Bus Network Redesign



As of 2021, SEPTA has started a multi-year process known as the Comprehensive Bus Network Redesign (or Bus Revolution)⁶ to review all bus routes in their system and determine if particular routes should be changed, combined, or relocated. SEPTA has considered changes to its suburban routes in Montgomery County for years, especially the routes that connect to its commuter rail and high speed line services at the Norristown

Transportation Center. However, a comprehensive redesign of the bus network based on public outreach and using 21st-Century information and principles may allow the transit agency to prioritize route efficiency and access, and therefore improve the potential to attract transit-oriented development along certain bus routes.

Regional Rail Revolution



Also in 2021, SEPTA initiated a long-term planning process known as Reimagining Regional Rail to solicit feedback from riders

and non-riders on rail service, station design, train equipment, transit connections, and fare integration⁷. SEPTA recognizes the need to continue evolving the transit service along railroad lines built over one hundred years ago, and to explore solving the issues of last-mile connections, service frequency, and accessibility throughout their service area.

While the effort was just getting started at the time of this document's publishing, Montgomery County looks forward to SEPTA's public input process and working together on evaluating choices and setting a vision for future regional rail service.

Service Frequency Improvements

Montgomery County also continues to support physical infrastructure improvements that would allow for increased service frequency on existing Regional Rail lines. Two major projects that are part of SEPTA's long-term capital budget are the addition of tracks and siding areas between Fern Rock and Jenkintown, as well as the separation of freight and passenger rail tracks in the municipality of Norristown, which could potentially make it easier to increase service frequency along the Manayunk/Norristown Line.

Additional projects on the transit vision list in *Montco 2040* (see Map 4 on the previous page) include adding a second track on the Warminster Line north of Noble station and increasing service frequency along the Cynwyd Line. Operating improvements often need to proceed hand-in-hand with capital improvements in order for the full potential of transit-oriented development to be unlocked.

6 SEPTA. Bus Revolution Website (2021). <https://www.septabusrevolution.com/>

7 SEPTA Reimagining Regional Rail Website (2021). <https://planning.septa.org/projects/regional-rail-master-plan/>

Americans with Disabilities Act

The Americans with Disabilities Act (ADA), passed by the United States Congress in 1990, protects disabled Americans against discrimination and requires public entities to enact accessibility accommodations. These accommodations include unrestricted physical access to public buildings and facilities, such as sidewalks and public transit.

While physical access improvements are designed to accommodate mobility devices such as wheelchairs, people of all ages and activity levels can benefit from accessibility improvements at regional rail stations. For example, improvements such as high-level platforms can improve both walkability and aging-in-place within our communities by increasing access to others such as parents with strollers or seniors using canes or walkers.

From the standpoint of transit-oriented development, accessibility should be written into design standards for land developments and incorporated into infrastructure investments to upgrade pedestrian paths within the larger station area. For example, bus stops designed for ADA compliance should accommodate comfort for all users, both while waiting for the bus to arrive and while boarding the bus itself. Rail stations should have high-level platforms, as well as elevators to access all areas of the station.

However, the most important part of a broader ADA system is that safe access is available to and from these buildings, stops, and stations, and the wider community. Sidewalks and curb ramps

that meet the latest ADA design standards are generally an important part of creating a walkable and bikeable community.

Walk Montco and Bike Montco

The Montgomery County Planning Commission released two plans in the late 2010s to address transportation accessibility for non-motorized vehicles. Each plan follows the broader goals set forth by the *Montco 2040: A Shared Vision* comprehensive plan, adopted in 2015, to “improve transportation quality and expand options for county residents and workers” and to “advocate for more sidewalks and pedestrian-oriented design of developments”.

*Walk Montco: Montgomery County Walkability Study*⁸ and *Bike Montco: The Bicycle Plan for Montgomery County*⁹ provide a number of design guidelines and standards, focus area examples, and implementation tool suggestions to guide improvements to the walkability and bikeability of Montgomery County’s streets and roads (see photos and examples below).

Communities throughout the county have taken advantage of the suggestions to install improvements such as sidewalk expansions and bicycle lanes, which are compatible with the overall goals of transit-oriented development. This TOD model ordinance is designed to complement and continue to build on the guidelines and suggestions laid out by both *Walk Montco* and *Bike Montco* to improve pedestrian and bicyclist access to transit.



Walk Montco specifically focused on transit-oriented walkability with an in-depth study of the Noble train station area (above), as well as access to downtown areas, suburban commercial areas, and safe routes to schools.



The *Bike Montco* plan also contained a focus area section on bicycling to transit with a focus on the Ambler train station area (above), as well as bicycling to school, to trails, and within towns.

8 Montgomery County Planning Commission, *Walk Montco* (2016). <https://www.montcopa.org/2109/Walk-Montco>

9 Montgomery County Planning Commission, *Bike Montco* (2018). <https://www.montcopa.org/2684/Bike-Montco>

Transportation Demand Management

An additional tool that municipalities are beginning to use to manage the flow of traffic on local roadways is the idea of transportation demand management, or TDM. TDM is a set of tools designed to address the demand for automobile travel that can range from advertising and awareness of alternative travel modes to ordinance language mandating reductions of parking spaces during development as ways to maximize the attractiveness of nearby transit options, walking, and bicycling.

Two municipalities in Montgomery County have crafted formal TDM plans as of 2021. Upper Dublin Township developed a TDM plan for the Fort Washington Office Park¹⁰ in 2018, and Lower Merion Township enacted a TDM policy¹¹ resolution in 2020, both in partnership with the Greater Valley Forge TMA.

Both of these TDM documents focus on the potential to reduce congestion caused by office workers commuting by single-occupancy vehicle cars. Lower Merion's policy calls for an expansion of bicycle and pedestrian infrastructure, as well as a "mode shift" of vehicle travel to cycling, carpooling, and transit.

TDM policies and plans are an important emerging tool for the holistic management of travel. Without transit access, these plans would be nearly impossible to implement. Encouraging additional development that is walkable and transit-oriented is one way municipalities can advance goals to reduce vehicular congestion and encourage increased use of other modes of transportation.



¹⁰ Upper Dublin Township Fort Washington TDM Plan (2018): <https://www.upperdublin.net/business-development/fort-washington-office-park-fwop/transportation-demand-management-plan/>

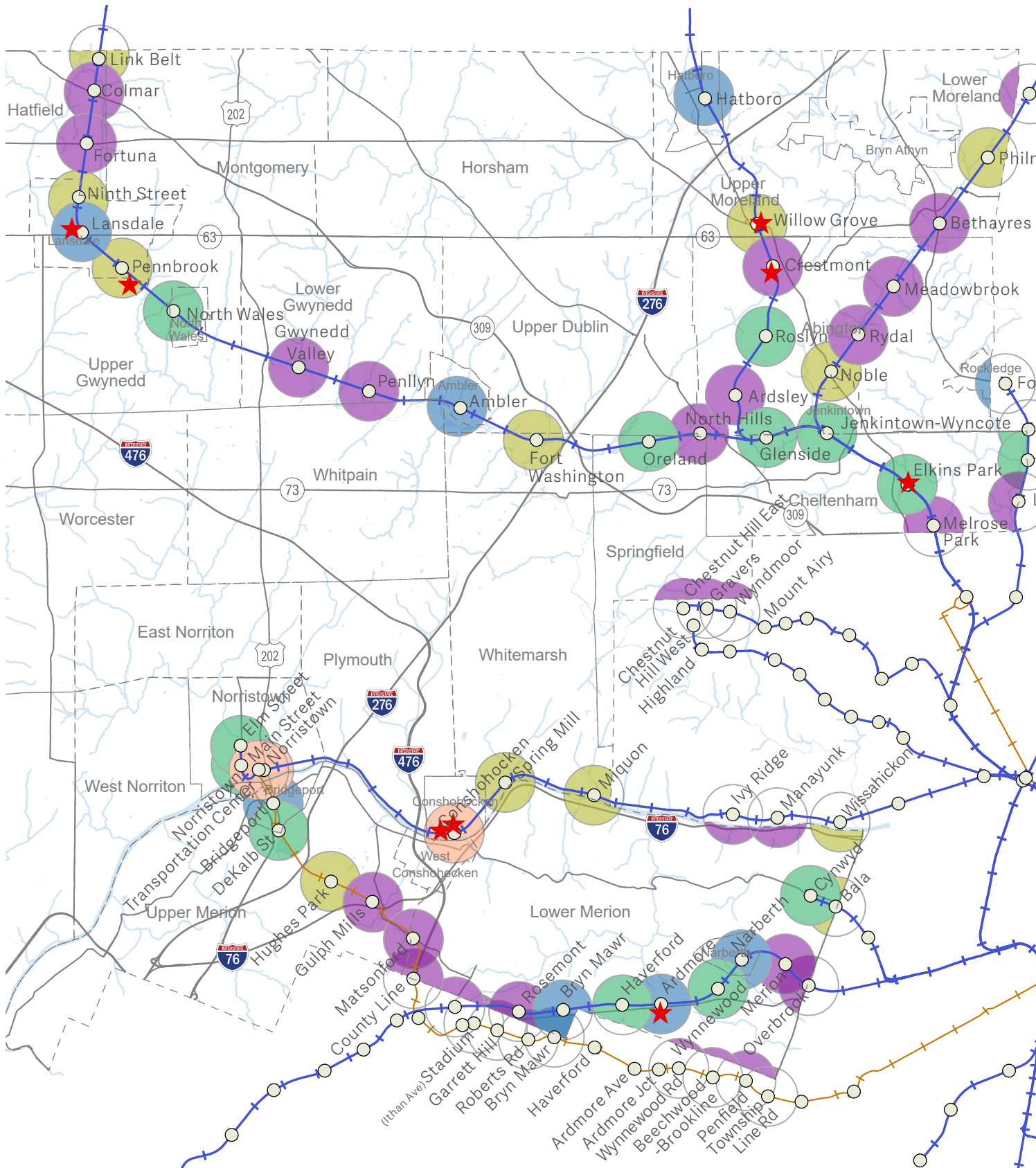
¹¹ Lower Merion Township TDM Policy (2020): <https://www.lowermerion.org/services/building-and-planning-department/ongoing-projects-long-range-plans/transportation-demand-management-tdm>

STATION AREA TYPOLOGY

SECTION

2

MAP 5: MONTGOMERY COUNTY STATION AREA TYPOLOGY



Introduction

A total of 43 Regional Rail and six Norristown High Speed Line stations are located within Montgomery County. Another 11 Regional Rail and nine Norristown High Speed Line stations are located within a 1/2-mile of the county border. These station areas are located in 25 municipalities in the eastern half of Montgomery County and encompass a wide range of existing land use patterns. Other factors such as road connectivity through the station area and the presence of natural features and open space can also influence the development potential of a particular station area.

In order to reflect the diversity of station areas in the county, each station area has been assigned a station area typology (see Map 5 to the left).

- **Regional Mixed Use Centers** and **Town Centers** have the most development potential and are areas where a lot of development activity is currently occurring.
- **Suburban Employment Centers** have a major employment component and often include office campuses and hotels.
- **Neighborhood Village Centers** have a mix of uses, similar to Town Centers, but are characterized by a smaller, central commercial area.
- **Suburban Neighborhood** station areas are predominantly residential areas where there is less development capacity due to the presence of established single-family neighborhoods and natural resources.

Table 1 on the following page summarizes characteristics of each of the five typologies in terms of the larger land use context, as well as the building scale that is most appropriate for each typology. Each typology is then explored individually later in this section.

Although each station has been assigned a typology for the purposes of this planning document, based on our understanding of existing land use and development patterns across the county, each municipality applying this model ordinance may choose to select a different typology for their station area based on their community's specific goals and vision.

Please see Appendix B for an alphabetical list of each station and its corresponding station area typology.

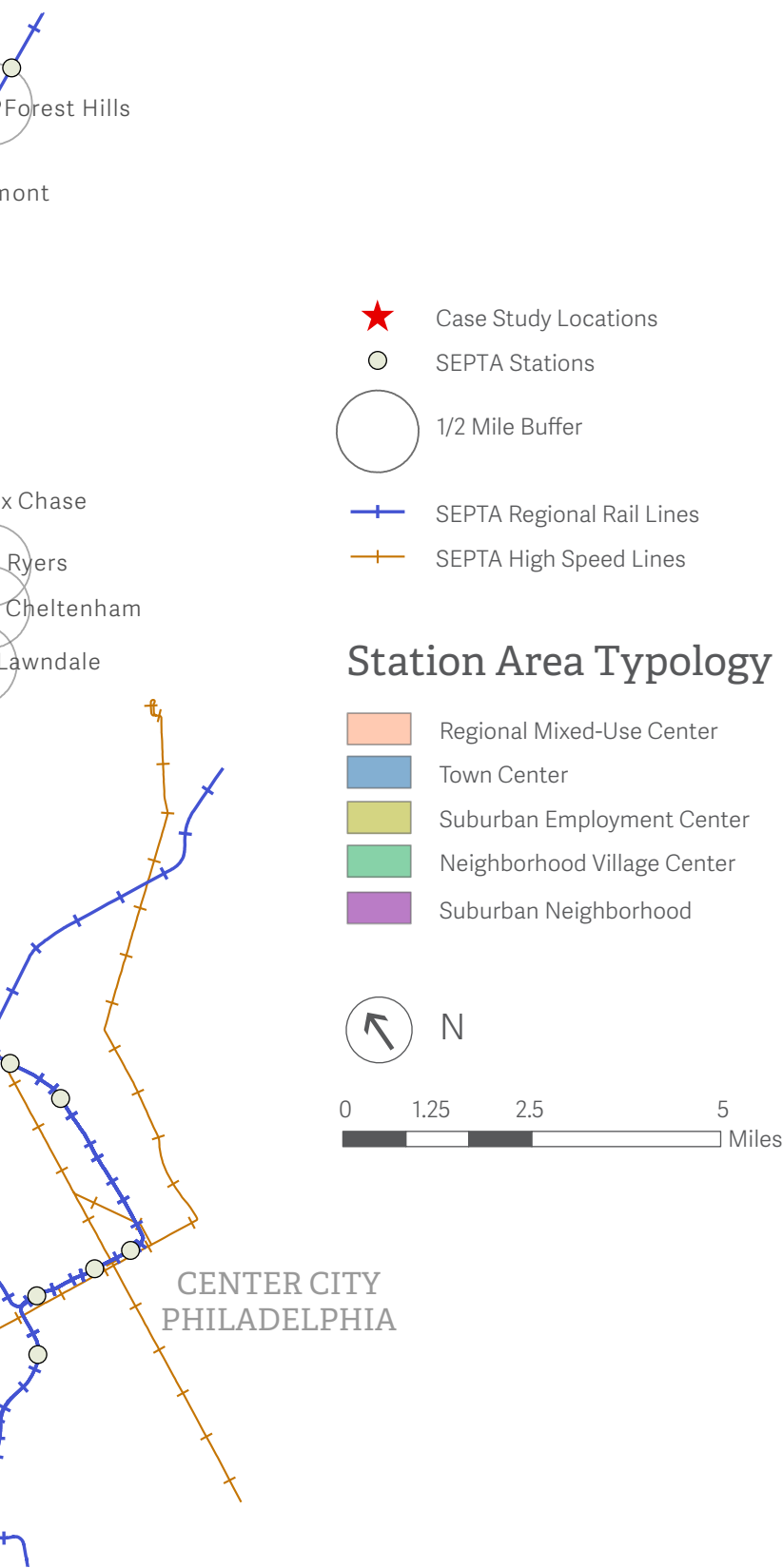
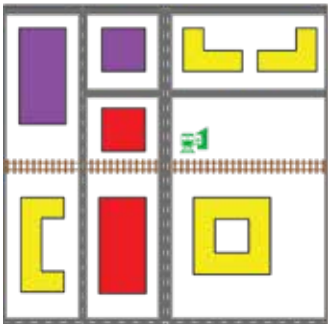
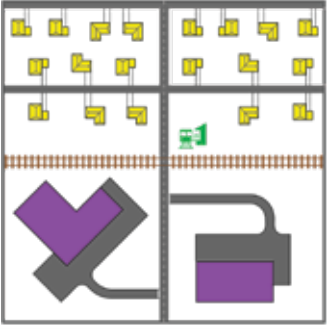
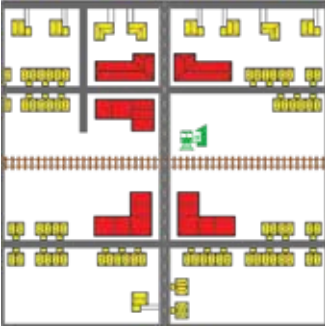
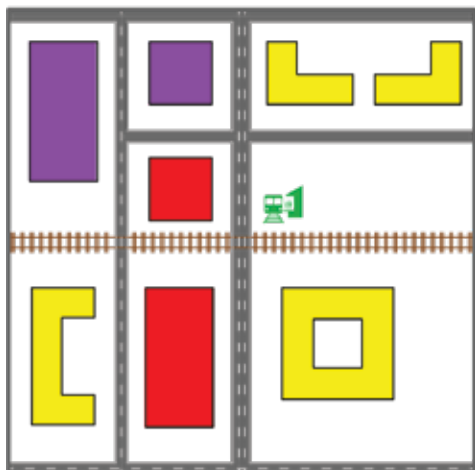


TABLE 1: STATION AREA TYPOLOGY CHARACTERISTICS

Station Area Typology	Regional Mixed-Use Center	Town Center
CONTEXT		
Street Grid	Established street grid of large blocks and wide roads; highway connection nearby High Connectivity	Well-established street grid of walkable-scale blocks, often paired with an active main street High Connectivity
Land Use	■ Mix of residential and office uses; predominantly in single-use buildings ■ Retail is typically located on the ground floor of buildings	■ Mix of residential, retail, and office uses ■ Mixed-use buildings common, especially near train station
Streetscape	Walkable streets with sidewalks on both sides Plazas set back from the wide roads improve quality of pedestrian experience	Walkable streets with sidewalks on both sides Buildings are built up to the sidewalk along main streets
Parking	■ Underground parking ■ Structured parking ■ Surface parking to the rear or side of buildings	■ Underground parking ■ Structured parking ■ Surface parking to the rear or side of buildings ■ On-street parking
Gathering Space/Parks	■ Plazas and parks are strategically located as part of the street grid ■ Large developments are required to allocate a minimum percentage of the lot area for gathering space	
BUILDING		
Height	Mid-rise and high-rise 4-10 stories	Mid-rise 3-6 stories
Setbacks	■ Build-to line can be found abutting the train station ■ Medium setbacks and greenery along building frontage	■ Build-to line along the main street and within the town center ■ 10-15 foot setback along inner blocks and residential streets
CASE STUDY LOCATIONS	■ SORA West, Conshohocken ■ Grande at Riverview, Conshohocken	■ Cricket Flats, Lower Merion ■ Madison Lansdale Station, Lansdale

Suburban Employment Center	Neighborhood Village Center	Suburban Neighborhood
		
More established street grid in residential areas; employment district is characterized by wide and curvilinear roads between buildings and local roads Medium Connectivity Residential and employment uses are often separated into different districts; supportive retail nearby	Well-established street grid in residential areas; intersects with a small mixed-use core, often along or near a main street Medium-Low Connectivity Mix of residential uses; neighborhood-scale mixed-use buildings closer to train station	Curvilinear street network with low connectivity, single family homes about the rail line Low Connectivity Primarily residential uses; neighborhood parks and trails common; neighborhood-scale retail may be present at train station
Sidewalks are mostly present in residential districts Combination of automobile-oriented roads in employment area and residential streetscape in residential districts - Surface parking to the rear or side of buildings - On-street parking near retail	Sidewalks are mostly present Front yards along residential streets; in the village center, mixed-use and retail buildings are located at street level along sidewalks - Surface parking to the rear or side of buildings - On-street parking - Driveway/garage parking in residential areas	Sidewalks are mostly present Front yards of homes are facing residential streets; sidewalks are present on at least one side of most streets, especially near the train station - Driveway/garage parking in residential areas - Small surface parking lots near train station
- Employment districts may provide gathering space and trails for employees - Neighborhood park	Neighborhood park or plaza near train station	Neighborhoods parks
		
Mid-rise 3-5 stories	Low-rise and mid-rise 2-3 stories. 4th story is optional at the lower grade of the site.	Low-rise 2-4 stories
- Residential setbacks: 15-40 feet - Commercial setbacks can be greater	- Build-to line along the main street and within the village center - Residential setbacks: 15-30 feet	Residential setbacks: 25-35 feet, often landscaped
- The Station at Willow Grove, Upper Moreland - The Point at Pennbrook Station, Upper Gwynedd/Lansdale	Elkins Park, Cheltenham	Crest Manor, Abington

Regional Mixed-Use Center



Geographic Context

Regional Mixed-Use Centers are the busiest train station areas in Montgomery County. There are two train stations of this classification shown in the Station Area Typology Map: Conshohocken and Norristown (see map 5 on page 20). Both of these train stations are characterized by high-connectivity to transit and the highway system, which supported the development of their surroundings as regional employment centers. High-density, diverse land uses and high connectivity are the key elements that make Regional Mixed-Use Centers the economic engine for their regions.

In Regional Mixed-Use Centers, mixed use buildings are present to some extent; however, most buildings tend to have a primary use of either professional office or residential. Office buildings may have retail space on the ground floor, although in many cases, the ground level is used for additional office space or parking. Building frontages are aligned along a build-to line, with occasional setbacks on street corners to form a welcoming plaza for pedestrians. Outdoor amenities are provided within each block as interior courts for the use of the residents or employees of individual buildings.

The railroad tracks and highway system enclose large blocks that guide large-scale development. These existing conditions often reduce the interest and quality of the pedestrian experience. Therefore, all new transit-oriented developments in Regional Mixed-Use Centers should contribute to a continuous sidewalk network and pleasant streetscape design.

Building Scale

As mentioned before, Regional Mixed-Use Centers are located within a wide grid that informs large-scale development. For example, recent development near the Conshohocken train station take over the whole blocks, which makes for a significantly different environment than in Town Centers, where several smaller buildings on the same block align to one another or share a party wall along the street.

Most buildings in Regional Mixed-Use Centers are at least four stories tall; however, buildings of 10 or more stories can be accommodated. Higher-density residential buildings are usually four to five stories and include structured parking.

Future Development Potential

Communities that have stations in other typologies, such as Town Center or Suburban Employment Center, may wish to consider increasing the permitted density of development around their stations by “up-zoning” the station area to Regional Mixed-Use Center. This can be appropriate when greater density is consistent with the community vision, there is capacity in terms of infrastructure and services to support greater development, and developable land is available. Examples of high-density buildings that fit into Regional Mixed-Use Center station areas are illustrated on the following page.

CONSHOHOCKEN STATION, CONSHOHOCKEN BOROUGH

N

Case Study A: Sora West (pages 26-27)

Case Study B: The Grande (pages 28-29)



BUILDING TYPES

Mixed-Use/Commercial High-Rise

Commercial high-rise buildings have primary frontages with accentuated entrances along the street or on a street corner. Structured Parking is provided within the building or in an enclosed structure.

Stepbacks can be used to reduce building volume along the street, though it is not necessary if there is enough space around the buildings.

SORA West is an example of a mixed-use/commercial high-rise near Conshohocken Station, which is a Regional Mixed-Use Center (see the case study on pages 26-27 for more information).



SORA West



Residential Mid-Rise/High-Rise

Residential mid-rise or high-rise buildings are often designed around a courtyard that provides outdoor space for residents. This building type can offer a wide range of units, including small units, corner units, and units with private access.

The Grande at Riverview is an example of a residential mid-rise development that provides increased residential density near the Conshohocken Station (see the case study on pages 28-29 for more information).



The Grande at Riverview



CASE STUDY

SORA WEST

LOCATION:
CONSHOHOCKEN BOROUGH

STATION AREA TYPOLOGY:
REGIONAL MIXED-USE CENTER

BUILDING TYPE:
COMMERCIAL HIGH-RISE

ADDRESS 1 West First Avenue

TRAIN STATION Conshohocken
(Manayunk-Norristown Line)

TRAVEL TO PHILA. 39 minutes

TRACT AREA 3.69 acres

LAND USE Office & Hotel

COMMERCIAL SPACE 535,967 sq. ft.

BUILDING HEIGHT 12 stories

PARKING Approximately 1,500 spaces

YEAR COMPLETED 2021 (Office)

ZONING Specially Planned District 4

After many years of proposals and zoning changes, the SORA West project from Keystone Property Group is under construction as of 2021. The complex will feature a 12-story office tower with over 430,000 square feet of space, which will become the corporate headquarters of AmerisourceBergen. In addition, the development includes a 130-room hotel, the adaptive reuse of

the Conshohocken Firehouse as a gastropub, a public plaza, and a parking garage with nearly 1,500 parking spaces. The complex stretches along Fayette Street from Elm Street to First Street, one block north of the outbound platform of the Conshohocken SEPTA Regional Rail station. SEPTA's Route 95 and 97 suburban bus routes also serve the site.



Unique pavement materials and landscaping activate the space between the office building and parking garage.



The SORA West development preserved the historic fire station building, which, when complete, will be reused as a brewpub and integrated into the overall design of the development.



SORA West is positioned as a gateway development in Conshohocken (as viewed here from Fayette Street and West First Avenue).

Zoning & Surrounding Environment

SORA West is positioned to be the gateway development of Conshohocken, with prominent frontage on both Conshohocken's "Main Street" (Fayette Street) and Elm Street. Convenient access to the Schuylkill River Trail, a proposed new SEPTA parking garage at the nearby Conshohocken Station, and corridor upgrades along Interstate 76 will also benefit this development. Immediately on the other side of First Avenue from SORA West is Conshohocken's central business district, with restaurants and retail stretching north along Fayette Street and east along West First Avenue.

The SORA West development was developed under the "Specially Planned District 4" zoning classification which was adopted by Conshohocken Borough in 2017. The legislative intent of this district, in part, reads "to encourage increased utilization of all transportation modes and to encourage the planning and utilization of land and the harmonious design, erection and use of buildings in a diversified commerce-business community." In order to encourage non-residential uses, the SP4 district limits multifamily dwelling units to 40% of the total square footage of a unified development proposal. SP4 developments require a minimum public gathering space equal to 10% of the developable area of the site.

Best Practices

- **Adaptive Reuse:** While the SORA West project replaced several older office buildings and a parking garage that occupied the site previously, the project also incorporated the adaptive reuse of a fire station building that is being converted into a brewpub.
- **Public Gathering Space:** All of the structures on the site have frontage on and connections to a centrally-located public plaza designed to accommodate both community events and informal gatherings.

Opportunities

- **Streetscape Design:** SORA West is designed with an emphasis on the Fayette Street frontage, where the main pedestrian entrances to the hotel and office building are located as well as the central public gathering space. The parking garage is located with significant frontage on Elm Street. To further enhance the pedestrian realm, a consideration could have been to incorporate additional design elements along the streetscape on Elm Street and the ground floor frontage of the parking garage.

CASE STUDY

THE GRANDE AT RIVERVIEW

LOCATION:
CONSHOHOCKEN BOROUGH

STATION AREA TYPOLOGY:
REGIONAL MIXED-USE CENTER

BUILDING TYPE:
RESIDENTIAL MID-RISE

ADDRESS	200-350 W Elm Street
TRAIN STATION	Conshohocken (Manayunk-Norristown Line)
TRAVEL TO PHILA.	39 minutes
TRACT AREA	8.65 acres
LAND USE	Residential
NUMBER OF UNITS	387
BUILDING HEIGHT	4 Stories + 1-2 parking
DENSITY	44.9 units/acre
PARKING	Structured & surface parking (1.2 spaces/unit)
UNIT TYPE/SIZE	2 bedrooms with loft (most common)
YEAR COMPLETED	2007-2010
ZONING	Specially Planned District 1

The Grande at Riverview is a three-building multifamily complex located on a former largely industrial tract that took advantage of the adjacent railroad access. The complex is bordered on the west side by Plymouth Creek and the Schuylkill River Trail, and is less than one block from the outbound platform of the Conshohocken SEPTA Regional Rail station, as well as the Route 95 and 97 suburban bus routes.

Zoning & Surrounding Environment

Conshohocken has established “Specially Planned District” zoning classifications to cover their riverfront. The Grande at Riverview is located in the borough’s “Specially Planned District 1” zone, which was intended to encourage a mix of uses and building heights. Tracts in this zone must be at least 5 acres in order to permit a residential use, but they may still be subdivided into individual lots for townhomes or multifamily. The current height maximum for residential buildings in this zone is 85 feet, and parking is required at 1.2 spaces per multifamily unit.

The Grande at Riverview is located in the middle of some of the most intensive redevelopment activity in Montgomery County, though the developments are concentrated along the major arterials in the area. Additional office and residential devel-



The multiple buildings that make up The Grande at Riverview are built up to the sidewalk along the surrounding streets, including Elm Street.

opments are coming in east and west of the Grande to form a busy Regional Mixed-Use Center. At the same time, immediately across Elm Street from the Grande at Riverview are a number of rowhomes and twins, reflecting the legacy residential development of a riverfront borough.



The Grande at Riverview has convenient connections to both the Conshohocken Station and the Schuylkill River Trail.

Best Practices

- **Building Design:** The buildings' design takes advantage of the lower elevation towards the Schuylkill River by placing the parking partially below-grade.
- **Trail Access:** The building complex provides direct connection from each building to the Schuylkill River Trail, which also leads to the Conshohocken train station outbound platform. The site also has convenient access to the Cross-County Trail which connects to Plymouth Township.

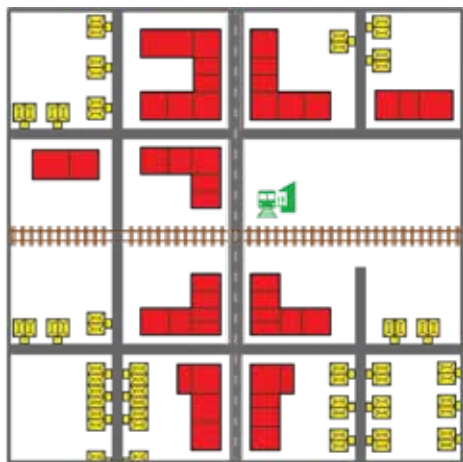
Opportunities

- **Pedestrian-Oriented Entrances:** The Grande at Riverview was designed to face inwardly, so all entry points and common spaces would be located inside the buildings. To contribute to an active and lively streetscape, a consideration could have been to design the buildings with entrances and openings along Elm Street.



Surface parking is conveniently located along secondary building frontages internal to the site.

Town Center



Geographic Context

Town Center station areas are highly walkable train station areas that serve as a small-scale regional focal point with a mix of uses surrounding the train station. This typology is primarily characterized as a local downtown with stores, restaurants, services, and commercial space dominating the street-level, while residential units and office space are found on the second floor and above. Parking is available on-street and in the rear of buildings, and occasionally, public structured parking is available as well.

In most Town Center areas, the train stations are nestled within a well-established street grid of intersecting streets, dominated by a main street near the train station or a block away. Buildings align along a common build-to line to form a continuous street

façade that activates the sidewalk. High-density residential districts often abut Town Centers, and provide multifamily living as well as townhomes in walking distance of the train station. A network of sidewalks along all streets surrounding the train station supports higher residential density and neighborhood retail.

Building Scale

In Town Centers, building bulk tends to vary in terms of height and overall scale. Many Town Centers have developed gradually over time, since the early 20th-Century, resulting in buildings of varying scales and architectural styles. While earlier buildings are narrow and form a street wall by attaching to one another, some recent developments have been larger and resulted in the redevelopment of entire blocks.

Building height in Town Centers is predominantly three stories; however, taller buildings are common, and a few municipalities have zoning in place to allow 4-story buildings and higher. When building height increases, there are impacts on the streetscape due to the overall scale of buildings. For this reason, special attention should be given to specific building design guidelines that support the integration of new buildings into the scale and character of the established built environment. (See Section 3: Design Elements & Best Practices).

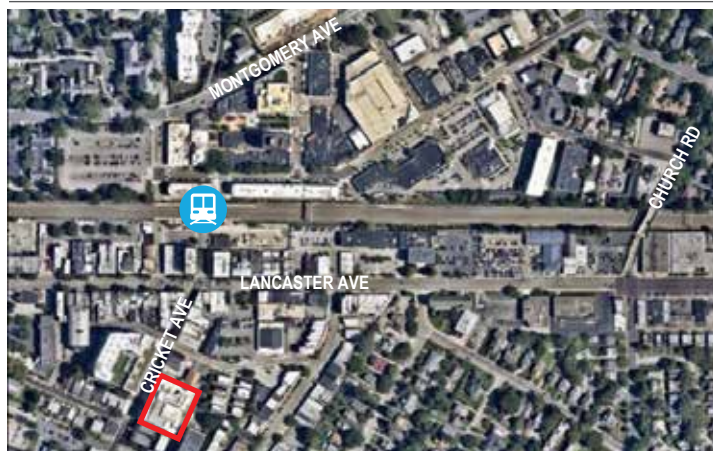
Future Development Potential

Town Center station areas represent a significant opportunity for infill development, increased building height, and associated density. The building types illustrated on the following page are examples of mixed-use and residential mid-rise buildings that can fit in to Town Center areas.

ARDMORE STATION, LOWER MERION TOWNSHIP



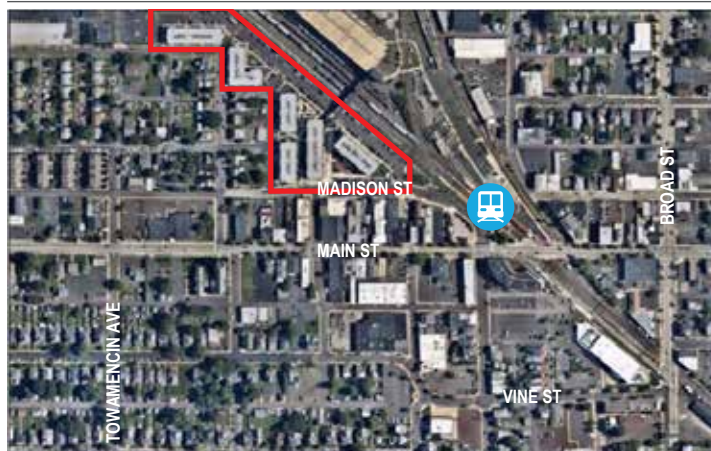
Case Study: Cricket Flats (see pages 32-33)



LANSDALE STATION, LANSDALE BOROUGH



Case Study: Madison Lansdale Station (see pages 34-35)



BUILDING TYPES

Mixed-Use Mid-Rise

This building type is common as infill development. Ground floor retail supports the Town Center's distinctive streetscape and business activity. Parking is in the rear of the building or underground.

Cricket Flats is an example of a mixed-use, mid-rise building in Ardmore that was developed as an infill project (see case study on pages 32-33 for more information).



Cricket Flats



Residential/Mixed-Use Mid-Rise

Residential buildings are found in Town Center areas, but usually not in the immediate environment of the train station. The ground floor in this building type is used for structured parking, amenities, or residential units with outdoor access.

Five of the six buildings that make up the **Madison Lansdale Station** development in Lansdale Borough are examples of the residential mid-rise building type (see case study on pages 34-35 for more information).



Madison Lansdale Station



CRICKET FLATS

LOCATION:
LOWER MERION TOWNSHIP

STATION AREA TYPOLOGY:
TOWN CENTER

BUILDING TYPE:
MIXED-USE MID-RISE

ADDRESS 47, 55, 59 & 65 Cricket Avenue

TRAIN STATION Ardmore (Paoli-Thorndale Line)

TRAVEL TO PHILA. 13 minutes

TRACT AREA 0.67 acres

LAND USE Mixed-use

COMMERCIAL SPACE 10,738 sq. ft.

NUMBER OF UNITS 77

BUILDING HEIGHT 5-story

DENSITY 115 units/acre

PARKING Structure parking
107 spaces

UNIT TYPE/SIZE Studio, 1 & 2 bedrooms

YEAR COMPLETED 2020

ZONING Mixed Use Special
Transportation (MUST)

Cricket Flats is a 5-story, mixed-use apartment building in downtown Ardmore. It is situated on Cricket Avenue, a short walk from the Ardmore station and the Suburban Square shopping center. The building includes four residential stories above commercial frontage on the ground floor facing Cricket Avenue, with parking integrated within the building and underground.

Zoning & Surrounding Environment

Downtown Ardmore is a well-established mixed-use transit district surrounding the Ardmore station and spreading along Lancaster Avenue and adjoining streets. It is an example of a compact town center that offers urban amenities within a suburban environment. The current zoning (adopted in 2020) allows a maximum building height of 4 stories with bonuses. However, Cricket Flats was developed under the township's previous zoning code's MUST (Mixed Use Special Transportation) overlay district, which applied to commercially-zoned land within a ½-mile of the Ardmore Station and allowed up to 9-story buildings with the provision of bonuses.



The Cricket Flats streetscape along Cricket Avenue includes a hard-scaped verge with street trees and planters and benches located along the building facade.



Architectural renderings showing the Cricket Flats building. The first three floors were constructed in stone and brick which is reminiscent of adjacent historical buildings. Credit: Barton Partners

Best Practices

The building design employs a sensitive approach in order to make this infill building fit within the established streetscape of historic downtown Ardmore.

- **Building Mass:** This building exemplifies the effectiveness of stepbacks in massing new buildings within an established built environment. The fourth and fifth floors are setback further so that the lower floors align with the existing adjoining building and the taller portion of the building is not as prominent from the pedestrian's perspective.
- **Selection of Materials:** Another strong feature of the design is the sensitive use of materials. The first three stories are built in brick and masonry, similar to existing adjoining buildings along the street. The upper two stories use a more contemporary material which reinforces the massing of the building and its contextual appearance.

Opportunities

- **Streetscape Context:** Cricket Flats reflects a sensitive infill approach, with the build-to line and sidewalk width extending from the neighboring property to the north. Considering the scale of the building and the commercial ground floor, a further enhancement could have involved a larger setback or use of recessed entrances on the ground floor to create more sidewalk space, which could potentially be used for



A building stepback above the third floors allows the Cricket Flats building to fit seamlessly into the scale of the existing buildings on the block.

outdoor dining or additional landscaping. Additionally, to better relate to the existing 3-story buildings to the south, a larger side yard setback and/or stepback could have been considered.

CASE STUDY

MADISON LANSDALE STATION

LOCATION:
LANSDALE BOROUGH

STATION AREA TYPOLOGY:
TOWN CENTER

BUILDING TYPE:
RESIDENTIAL/MIXED-USE MID-RISE

ADDRESS 325 Madison Street

TRAIN STATION Lansdale (Doylestown Line)

TRAVEL TO PHILA. 57 minutes

TRACT AREA 6.55 acres

LAND USE Mixed-use

COMMERCIAL SPACE 10,738 sq. ft.

NUMBER OF UNITS 175

BUILDING HEIGHT 3-5 stories

DENSITY 26 units/acre

PARKING Surface parking
263 spaces

UNIT TYPE/SIZE 1-2 bedroom

YEAR COMPLETED 2020

ZONING B-2 Business District

Madison Lansdale Station is a multifamily development comprised of a total of six buildings that are situated along the railroad, just a block away from Main Street in Lansdale Borough. This project is an example of an extensive block development that replaced a former parking lot, previously owned by the Lansdale Parking Authority.

The development includes a total of 175 apartments and retail space on the ground floor of the building closest to the station, with frontage on a public plaza which opens up to Madison Street. The tallest building goes up to five stories, while the rest of the buildings are three stories. Surface parking is positioned along the railroad and along the perimeter of the site, which leaves most of the space between the buildings available for green space or pedestrian space.

Zoning & Surrounding Environment

The six buildings that make up Madison Lansdale Station are situated to create an extension of the Lansdale street grid, which results in triangular spaces in between the buildings and the railroad. The triangular spaces, as well as the elongated space between parallel buildings, are used for circulation and as outdoor space for residents. Madison Lansdale Station was designed under the B-2 – Business District, as well as the Downtown Business Overlay District, and is subject to the Traditional

Town Design Standards and Design Review Process. A section of the Liberty Bell Trail along the Railroad was constructed as part of this development.



Property map highlighting site amenities such as the Liberty Bell Trail, retail space, and recreation areas.
Credit: Madison Lansdale Station



A linear plaza connects Madison Street and the pedestrian bridge to the Lansdale SEPTA parking garage to the north.



A mixture of private and public open spaces are located in the spaces between the development's multiple buildings.

Best Practices

- **Building Mass:** Five of the six buildings on the site correspond to the established Lansdale street grid, while the last building on the southern corner aligns with the railroad in a way that creates a plaza in between the buildings. A five-story mixed-use building fronts the plaza, which supports an urban streetscape and increases density near the train station. Three-story buildings make up the rest of this development, to blend in with the surrounding neighborhoods.
- **Incorporation of Public Amenities:** As part of this project, the connection between Main Street Lansdale and the SEPTA parking garage across the railroad was improved through a pedestrian bridge that lands directly in Madison Lansdale Station, on the southern side of the tract. This connection brings the public into the plaza and walkways of the Madison Lansdale Station community, which contributes to activating these urban blocks.

Opportunities

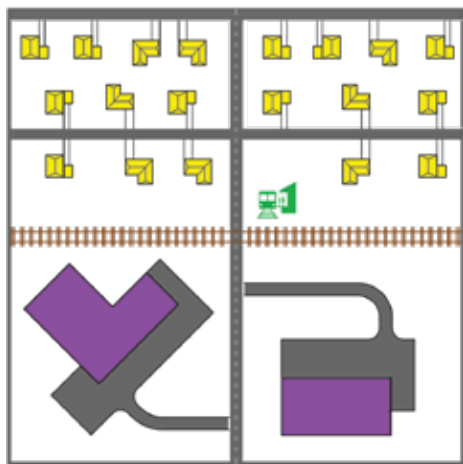
- **Streetscape Design:** The infill approach at Madison Lansdale Station utilizes the existing street grid, including Madison Street, which originally functioned as access to a parking lot and the back doors of the businesses that front on Main Street. Most businesses have taken the opportunity to open up to Madison Street, which incorporated streetscape



The Madison Lansdale Station apartment complex provides unique amenities for residents such as a dog park.

improvements such as sidewalks and pedestrian-scaled lighting as part of the development. To further enhance the pedestrian realm, a consideration could have been to incorporate additional streetscape design elements along both sides of the street where the development abuts the existing neighborhood.

Suburban Employment Center



Geographic Context

Suburban Employment Centers are defined by two distinct land uses: employment and residential, which are usually functionally and physically separated from one another. This separation of land uses is often a result of zoning, yet physical barriers such as the railroad tracks reinforce it. The two land uses are independent of one another, but they introduce an opportunity for a live-work environment near transit.

Station areas of the Suburban Employment Center typology are clearly identified by the juxtaposition between residential neighborhoods and employment centers, which prevents a continuous flow between them. In employment areas, curvilinear roads lead to

specific buildings and adjoining surface parking lots, without forming a clear block pattern. Residential neighborhoods are defined as smaller blocks of primarily single-family subdivision. Though multifamily buildings are present to some extent, it is still not a common building type. Sidewalks form an incomplete network that creates a barrier for pedestrians. Municipalities that consider development in Suburban Employment Centers should plan for better connectivity and continuous sidewalks within a half-mile walkshed of the train station.

Building Scale

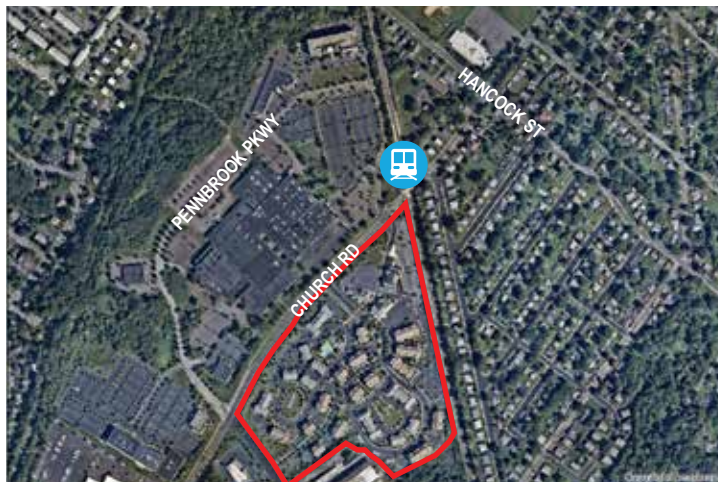
In Suburban Employment Centers, building height ranges between 2-3 stories regardless of land use. Residential neighborhoods offer single-family homes, townhomes and small multifamily buildings. In employment centers, buildings are large and surrounded by surface parking areas. These characteristics of existing low density paired with live/ work environment, create an opportunity for Transit-Oriented Development.

Future Development Potential

Suburban Employment Centers are desirable locations for TOD, because higher-density housing can appeal to both commuters as well as workers. Future development can come in different forms depending on the municipality's goals and desired density. The building types illustrated on the following page are examples of mixed use and residential buildings that can fit in to Suburban Employment Center areas.

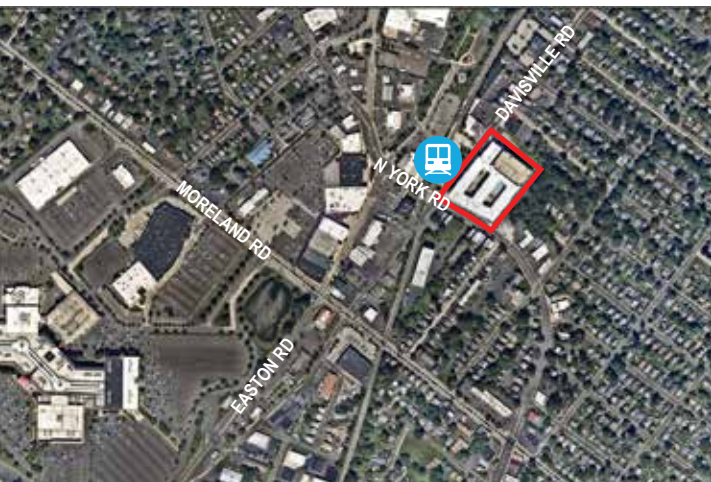
PENNBROOK STATION, LANSDALE BORO. & UPPER GWYNEDD TWP. N

Case Study: The Pointe at Pennbrook (see pages 38-39)



WILLOW GROVE STATION, UPPER MORELAND TOWNSHIP N

Case Study: The Station at Willow Grove (see pages 40-41)



BUILDING TYPES

Small Multifamily

Small (3-4-story) multifamily buildings with a combination of small units and garden units with private entrances can be used to increase density in Suburban Employment Centers and serve as a transition between employment areas and single-family residential neighborhoods.

The residential portion of **the Point at Pennbrook** development in Upper Gwynedd includes several small multifamily buildings (see case study on pages 38-39 for more information).



The Point at Pennbrook

Residential/Mixed-Use Mid-Rise

Mid-rise (3-5-story) multifamily buildings with structured parking or garden units on the ground floor are a commonly used building type when redeveloping an entire block in Suburban Employment Center station areas.

The Station at Willow Grove is an example of a mid-rise, mixed-use development. Commercial space on the ground floor of the building is oriented to the train station and structured parking is located to the rear (see case study on pages 40-41 for more information).



The Station at Willow Grove



THE POINT AT PENNBROOK

LOCATION:

**LANSDALE BOROUGH;
UPPER GWYNEDD TOWNSHIP**

STATION AREA TYPOLOGY:

SUBURBAN EMPLOYMENT CENTER

BUILDING TYPE:

**SMALL MULTIFAMILY
COMMERCIAL LOW-RISE**

ADDRESS 100 Reading Circle

TRAIN STATION Pennbrook Station
(Lansdale-Doylestown Line)

TRAVEL TO PHILA. 56 minutes

TRACT AREA 32.9 acres (10.7 acres commercial)
22.2 acres residential)

LAND USE Mixed-use

NUMBER OF UNITS 346 units

BUILDING HEIGHT 2-3 stories (residential)
1-2 stories (commercial)

DENSITY 15.6 units/acre (residential)

PARKING 657 residential (not including garages);
153 commercial; 238 public
(all approximate #s)

UNIT TYPE/SIZE 1, 2 & 3 bedrooms

YEAR COMPLETED 2005-2006

ZONING Transit-Oriented Overlay District

The Point at Pennbrook is a mixed-use development completed in 2006. Located along Church Road adjacent to the Pennbrook Train Station, The Point at Pennbrook consists of 346 apartments and 40,873 square feet of commercial space. SEPTA's Route 94 bus also runs along Church Road with a stop near the development, providing additional access to destinations such as Montgomery Mall, Lansdale Borough, the Montgomery County Community College in Blue Bell, Ambler Borough, and Chestnut Hill.

Zoning & Surrounding Environment

Upper Gwynedd Township and Lansdale Borough adopted a joint transit-oriented development overlay zoning district in 2003 to encourage mixed-use and walkable redevelopment of underutilized properties in a way that encourages use of public transportation. The zoning required a mix of commercial and residential land uses with nonresidential uses required to be closer to the train station.

Surrounding land uses include a mix of single-family homes and small multi-family buildings to the north in Lansdale Borough and office and light industrial uses to the south in Upper Gwynedd Township. To the west of the station, connected by sidewalks, is a 6-story, extended stay hotel.



Wide sidewalks with a landscaped verge connect the commercial and residential portions of the development.



The commercial portion of the development includes a combination of 1- and 2-story buildings.



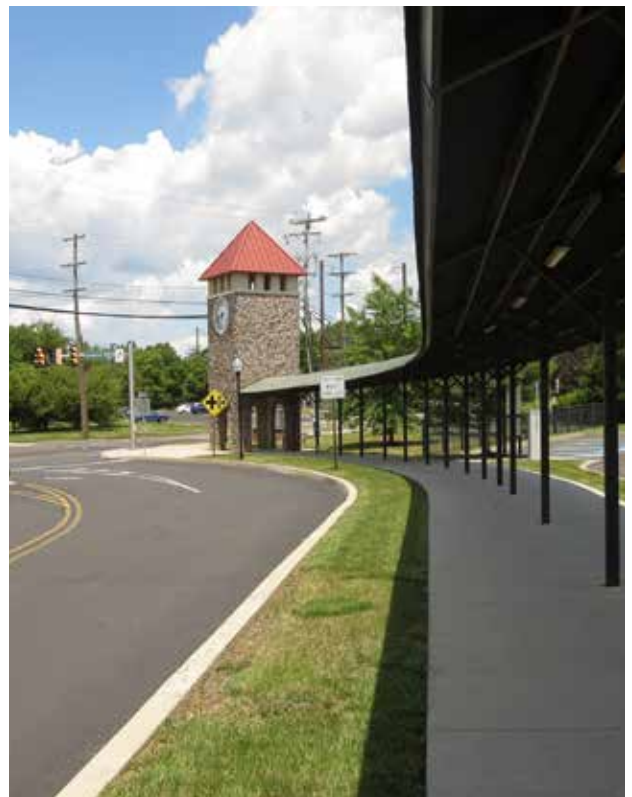
The residential portion of the development is made up of a combination of 3-story apartment buildings (as shown above) and 2-story townhomes.

Best Practices

- **Redevelopment of Underutilized Land:** The location of this mixed use development was a former Superfund site. In addition to the environmental benefits of cleaning up the site, the mixed-use redevelopment of this site so close to a regional rail station encourages public transportation ridership and contributes to the community character of both towns.
- **Public Parking:** A public parking lot with 160 spaces was reconfigured near the train station for SEPTA commuters as part of the development and is now managed by the Lansdale Parking Authority.
- **Landscape Design:** Landscape design ties the residential and commercial portions of the development together through landscaped boulevards. In addition, the apartment buildings are clustered around village greens that create unique communal public gathering spaces. On-street parking and sidewalks throughout the development create a pedestrian-friendly environment.
- **Trail Connections:** A potential future connection to the Liberty Bell Trail could increase non-vehicular access to destinations such as downtown Lansdale and Parkside Place Park.

Opportunities

- **Parking Design:** Surface parking lots for commuter parking at the Point at Pennbrook are still very prominent near the train station. Additional active building frontages along the walking paths from the residential portion of the development to the station could make the different areas of the development feel more connected.



A covered walkway connects pedestrians from the development to the Pennbrook Train Station.

CASE STUDY

THE STATION AT WILLOW GROVE

LOCATION:
UPPER MORELAND TOWNSHIP

STATION AREA TYPOLOGY:
SUBURBAN EMPLOYMENT CENTER

BUILDING TYPE:
MIXED-USE MID-RISE

ADDRESS 91 North York Road

TRAIN STATION Willow Grove (Warminster Line)

TRAVEL TO PHILA. 46 minutes

TRACT AREA 5.4 acres

LAND USE Mixed-use

COMMERCIAL SPACE 2,802 sq. ft.

NUMBER OF UNITS 275 units

BUILDING HEIGHT 5 stories

DENSITY 50.9 units/acre

PARKING Structured parking
481 spaces

UNIT TYPE/SIZE Studio, 1 & 2 bedrooms

YEAR COMPLETED 2019

ZONING Town Center Zoning District and
Transit Management Overlay District

The Station at Willow Grove (The Station), a 5-story apartment building containing office and commercial space on the ground floor, is located at the intersection of Davisville Road and North York Road, directly across the tracks from the Willow Grove Regional Rail Station. In addition to Regional Rail, the property is located along SEPTA's Route 55 bus connecting to Doylestown and Philadelphia.

Zoning & Surrounding Environment

Upper Moreland Township adopted the Town Center zoning district in 2006 to encourage residential and mixed-use developments within the Willow Grove core area, and in particular within walking distance to the Willow Grove Station.

While much of Willow Grove is residential in character, the immediate area around The Station development is diverse in land use. Willow Grove is at the confluence of major roadways which are lined with both neighborhood-serving and regional commercial retail stores and services. Willow Grove Mall is located across the township border in Abington, approximately 1/2-mile from The Station, and there are various large strip shopping centers, grocery stores, and other large commercial retail uses. Memorial Park is located less than 1/4-mile from The Station.



The office portion of the mixed-use development is one side of the building where there is also a designated delivery area, benches, and sculptural art.



Street trees and pedestrian-scaled lighting create a more walkable streetscape along the major roads.



Structured parking is located behind the building; ground floor parking spaces are available for public parking, in exchange for a building footprint bonus.

Best Practices

- **Redevelopment of Underutilized Land:** The 275-unit apartment building was developed on the site of former small-scale (1- 2-story) commercial buildings that had lined both sides of North York Road. The development, in addition to increasing residential density near the transit station, included sidewalks, trees, and benches to the streetscape.
- **Pedestrian Connectivity:** A signalized crosswalk was added across Davisville Road, improving pedestrian connectivity between the development at the Willow Grove train station.
- **Parking Garage Location:** The parking garage is located behind the building, accessed by driveways on Davisville Road and North York Road. The amount of parking provided is reduced due to the proximity of transit.

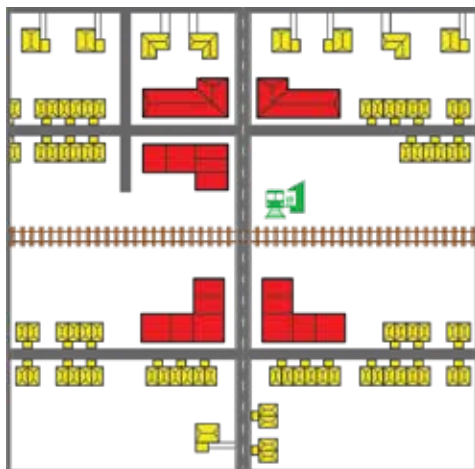
Opportunities

- **Relationship to the Street:** The first residential story is designed above street level, most likely to allow more privacy for residential units. This strategy creates blank walls along the North York Road and Davisville Road frontages. To foster a better relationship to the street and to create a more pleasant pedestrian experience, further design emphasis could have been considered regarding the interaction of the building's façade with the streetscape.



Due to the proximity of the Regional Rail station, The Station at Willow Grove development was permitted a 25% reduction in required parking spaces.

Neighborhood Village Center



Geographic Context

Train stations within Neighborhood Village Centers are characterized as low- to medium-density residential environments with a small, mixed-use core near the train station, often along a main street.

The railroad tracks tend to separate the street network on each side of the tracks due to lower connectivity in a more suburban environment. The street grid includes a combination of linear and curvilinear streets that create larger and less connected blocks.

The ground floors of buildings adjacent to the station are activated by local retail that supports a pedestrian-friendly environment. Nearby streets are lined with a mix of single-family homes and small multifamily buildings that have extensive landscaping and are set back from the sidewalk. Residential parking is available on-street and in private garages and driveways.

Building Scale

A mixture of low-rise and mid-rise housing types can be found near Neighborhood Village Center stations, including single-family homes, townhomes, and small multifamily buildings. The train station environment is mostly established, so new development primarily takes place on smaller infill sites.

Future Development Potential

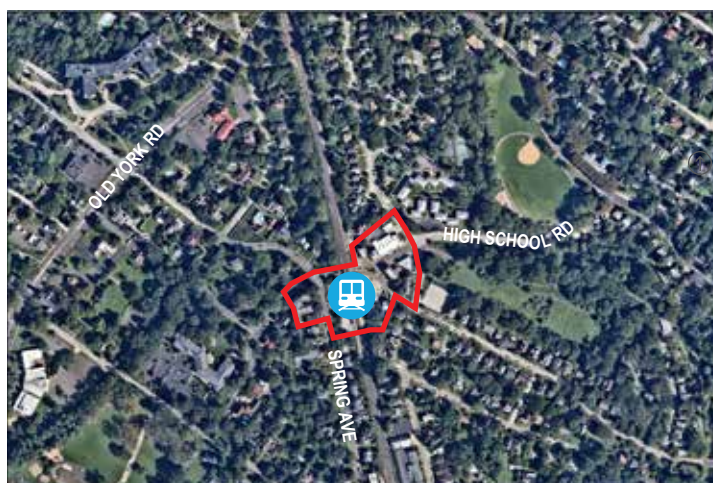
New development in Neighborhood Village Centers should fit into a predominantly low-rise residential environment. However, it is important to leverage access to transit and support the local retail. Communities can choose to increase density and train ridership to different extents, depending on their vision of the district and specific local characteristics.

The building types illustrated on the following page are examples of mixed use and residential buildings that can fit in to Neighborhood Village Center areas.

ELKINS PARK STATION, CHELTENHAM TOWNSHIP

N

Case Study: Elkins Park Village (see pages 44-45)



Elkins Park is a case study neighborhood for the Neighborhood Village Center station area typology (see case study on pages 44-45 for more information). Elkins Park has a small neighborhood center abutting the train station with retail on the ground floor and residential units above, and a mix of low- and mid-rise housing that were built during different time periods.

BUILDING TYPES

Small Multifamily

Three- to four-story multifamily buildings with a combination of small units and garden units with private entrances increase residential density while fitting into the walkable environment close to the station.



Elkins Park Village

Mixed-Use

Three- to four-story mixed-use building with residential units or office space above retail or restaurant space are the dominant building types along commercial streets in Neighborhood Village Center areas.



Elkins Park Village

Townhomes, Twin/Duplex

Single-family attached units of a relatively compact scale are a common existing housing type in Neighborhood Village Center areas.



Elkins Park Village

CASE STUDY

ELKINS PARK VILLAGE

LOCATION:
CHELTENHAM TOWNSHIP

STATION AREA TYPOLOGY:
NEIGHBORHOOD VILLAGE CENTER

ADDRESS Cheltenham Township

TRAIN STATION Elkins Park (Warminster Line)

TRAVEL TO PHILA. 20-25 minutes

LAND USE Mixed use village

BUILDING HEIGHT 2-4 stories

ZONING MU2 – Mixed Use 2 (east of the tracks).
R4 Residential (west of the tracks)

Distinct from the other case studies in this document, Elkins Park is an established neighborhood rather than a stand-alone new development that represents a pattern of early suburban development, which occurred around train stations in the early 20th century.

Elkins Park

Elkins Park is situated within Cheltenham Township. While there is not one specific development in Elkins Park to spotlight as a case study example of the Neighborhood Village Center station area typology, the neighborhood area itself exemplifies the historic development patterns around early suburban rail lines, common in many parts of Montgomery County.

Neighborhood

In the village of Elkins Park, the small neighborhood commercial core is located within the immediate station area with a number of mixed-use residential and commercial buildings. This area acts as the commercial (or town) center for the Elkins Park neighborhood with a grocery store, café, restaurants, and other commercial uses.



The historic character of the Elkins Park train station building contributes to the village center's unique feel.



Retail businesses such as this cafe have located in Elkins Park Village and contribute to a mixed-use environment.

The residential neighborhoods surrounding the station are predominantly single-family, but also include a diversity of housing types and size, with mid-rise apartment buildings and single-family attached homes such as townhomes and twins. About a block away is the Samuel A. Green House, a three-story senior assisted living facility.

Elkins Park Station

The Elkins Park Train Station was built in 1899. The historic station building remains and continues to function as the Regional Rail station. A parking lot surrounds the station, but does not limit walkability from points east of the station along Harrison Avenue.

Access to and from the station is relatively easy, yet there are areas of the sidewalk in need of repair. The outbound platform has a pedestrian-only shortcut between two houses on Montgomery Avenue leading directly to the intersection of Gerard Avenue. While it does allow some people to avoid walking through the parking lot on Harrison Avenue, there is limited signage to inform people of the access and directions to the station platform.

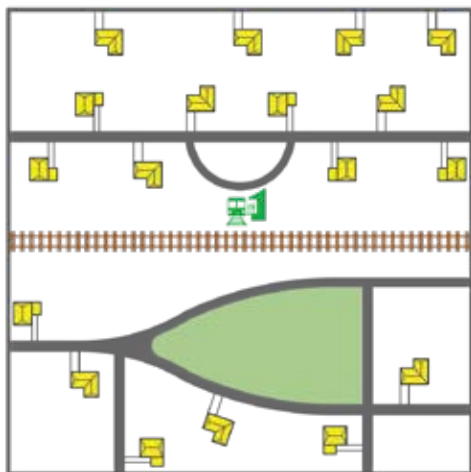


Commuter parking provides convenient access to both the train station and the village center.



Attractively landscaped pedestrian pathways connect the Elkins Park train station to the village center.

Suburban Neighborhood



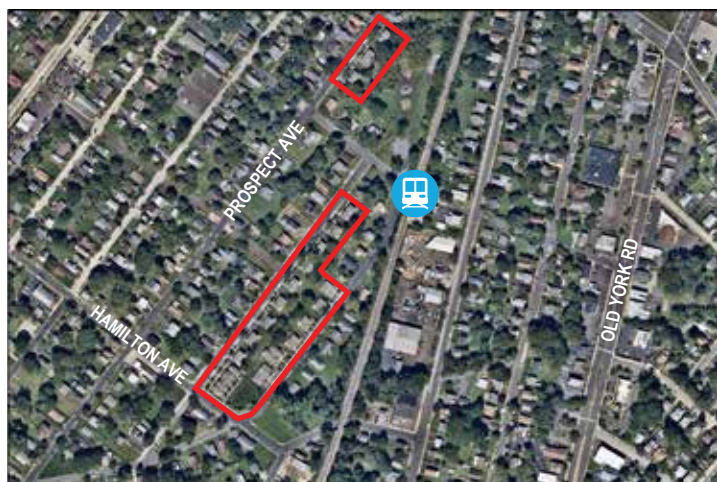
Geographic Context

Suburban Neighborhood train station areas are nestled within lower-density residential environments. Curvilinear and one-way streets create a disconnected street network that leads to quiet residential streets surrounding the train station. Though most streets have sidewalks, the combination of large residential blocks and less connections between blocks weakens the pedestrian experience.

CRESTMONT STATION, ABINGTON TOWNSHIP

N ↑

Case Study: Crest Manor (see pages 48-49)



Local retail can be found in a few Suburban Neighborhood station areas in the county, and is often located in the train station building as an adaptive reuse. The train station itself usually abuts the back yards of single-family homes, as well as a small neighborhood park.

Building Scale

Currently, the predominant building type in Suburban Neighborhood station areas is a single-family home on a relatively small lot. This results in a slightly higher residential density than in most residential districts in the region.

Streets are lined with small homes that are setback approximately 30-feet from the road, which includes a sidewalk and a narrow verge. Parking is mostly available in private garages, driveways, and on-street.

Future Development Potential

Municipalities that seek to increase density in Suburban Neighborhood station areas need to consider the existing scale of the built environment. Higher-density residential, such as three- to four-story multifamily buildings, can be integrated into the established single-family pattern, if the scale of the building is limited by either number of units or their size (or both).

Alternatively, twins, duplex, triplex, or quadraplex¹² buildings are a good choice for communities seeking to maintain their suburban character while increasing housing choices and density.

The building types illustrated on the following page are examples of residential buildings that can fit in to Suburban Neighborhood areas.

12 A duplex home contains two units, a triplex contains three units, and a quadraplex contains four units, yet all three housing types can be designed to maintain the appearance of a single-family home.

BUILDING TYPES

Small Multifamily

Three-story multifamily buildings, which could include garden units with private entrances, can increase residential density while being sensitive to the existing neighborhood scale and character.

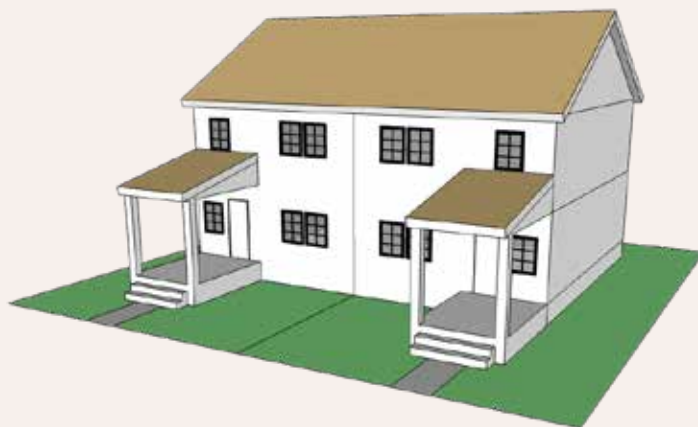
Crest Manor is an affordable housing community adjacent to the Crestmont train station in Abington Township (see case study on pages 48-49 for more information). This community is an example of lower-density development near a Suburban Neighborhood station that blends into the single-family environment. The site includes duplex units as well as small multifamily buildings that appear in keeping with the scale of the existing surroundings.



Crest Manor

Twin/Duplex

Twin and duplex buildings both contain two units each. In twin buildings, the units are typically located side-by-side; while in duplex buildings, the units are typically located on top of each other.



Crest Manor

CREST MANOR

LOCATION:
ABINGTON TOWNSHIP

STATION AREA TYPOLOGY:
SUBURBAN NEIGHBORHOOD

BUILDING TYPE:
TWINS, SMALL MULTIFAMILY

ADDRESS 2231 Hamilton Avenue, Willow Grove

TRAIN STATION Crestmont (Warminster Line)

TRAVEL TO PHILA. 44 minutes

TRACT AREA 4.48 acres

LAND USE Residential

NUMBER OF UNITS 46 (30 renovated units, 16 new units)

BUILDING HEIGHT 2 stories

DENSITY 10.3 units/acre

PARKING Driveway & on-street parking
2 spaces/unit

UNIT TYPE/SIZE 1-4 bedrooms, townhomes, apartments

YEAR COMPLETED 2019

ZONING R4 – High Density Residential

Crest Manor is an affordable housing community located in Abington Township, immediately adjacent to Crestmont Train Station. Originally built in 1963 by the Montgomery County Housing Authority, many of the units in Crest Manor required major functional and aesthetic improvements.

In addition to renovating 30 existing units, the project included the construction of 16 new units. Crest Manor offers 1-4 bedroom units for a variety of households. The development appears to

be based on the townhome typology, however, a few homes are single family while others are divided into apartment units of different sizes.

As part of this project, former buildings that were situated in the southern corner of the tract, within the floodplain, were demolished and that area of the tract was vegetated to provide an open space amenity. The community building and on-site management are located in a building overlooking the naturalized flood plain.



The Crest Manor community includes a combination of twins, a quadraplex, and a small multifamily building.

Credit: Pennrose





The homes in Crest Manor are set back from the street, consistent with the established surrounding neighborhood, but connected to the sidewalk via pedestrian pathways.

Zoning & Surrounding Environment

Crest Manor is located within the township's R-4 – High Density Residential zoning district, which is most prevalent in the western part of Abington Township. This district is characterized by small lots of single-family homes within a well-defined street grid.

Best Practices

- **Building Form:** The Crest Manor community fits in seamlessly to its residential surrounding, characterized by medium-density, single-family homes. The project refurbished the existing buildings on the block to the extent possible, and new homes were constructed employing similar building mass and separation characteristics as the existing buildings. The result is a development that has the same rhythm and scale of the surrounding environment. In addition, the units within Crest Manor incorporate traditional neighborhood design features such as covered porches and landscaped setbacks.
- **Sustainability:** The project was designed to achieve LEED for Homes Certification. Crest Manor is fully compliant with Uniform Federal Accessibility Standards requirements, with four units for the physically impaired and two units for the hearing/vision impaired. In addition, 16 units in Crest Manor meet visitability guidelines.¹³



Front porches, landscaping, and architectural details contribute to the visual appeal of the Crest Manor development.

- **Building Type & Diversity:** While keeping with the appearance of the neighborhood, the community provides a variety of housing types for different residents and households. The community includes a total of 17 residential buildings that appear to be twins and one that resembles a row of townhomes. However, the development provides several different kinds of units, including one-bedroom apartments, traditional twins, and garden units with ADA accessibility.

Opportunities

- **Potential Density:** The concept of Crest Manor was to deliver a neighborhood that would conform to the scale and character of the existing community environment. It appears that a higher residential density could have been achieved without sacrificing how the development fits in to the overall context. The R-4 district height restriction is 35 feet, which could have allowed for the consideration of 3-story buildings in this community.

¹³ Visitability means that there is at least one no-step entrance to a home, a first-floor bathroom, and 32" wide doorways on the first floor. Visitability ensures someone using a walker or wheelchair can at least visit a home.

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DESIGN ELEMENTS AND BEST PRACTICES

SECTION

3

Introduction

Transit-oriented development should incorporate a mix of land uses within a walkable network of streets at a density that boosts levels of transit ridership. Creating space for supportive uses and activities, such as outdoor dining, can foster a sense of place and contribute to a vibrant mixed-use district. The design and scale of buildings and landscapes within the train station area also enhances the public realm which, in turn, fuels street life. Parking is also an important resource that should be thoughtfully incorporated into the development to support transit ridership and accommodate the needs of residents and visitors driving to the development.

The five main design elements of a transit-oriented development are described and illustrated in this section. In addition, several design best practices are included in more detail for each design element. Best practices presented in this chapter are especially pertinent to built-out communities that are considering planning for TOD districts, such as many of the Town Center and Neighborhood Village Center station areas within the county (see *Section 2: Station Area Typology*). However, not all of the design practices presented below will be applicable to all train station areas, or be able to be implemented in any given site.

Design Elements

LAND USE MIX & DENSITY

...a mix of land uses supports a livable community and encourages transit ridership...

Although the exact mix of land uses most appropriate for a station is based on the station area typology (see *the Station Area Typology chapter*), a diverse mix of land uses contributes to a lively and walkable built environment and supports transit ridership. In general, concentrating development near transit provides opportunities to integrate denser housing types with supporting commercial uses to create a dynamic mixed-use community.

Because the region's rail system is structured to maximize access to the Center City Philadelphia employment center, many residents of transit-oriented developments within Montgomery County will likely use regional rail to commute to and from work in Center City during peak commuting hours. However, there are several employment centers along rail lines in Montgomery County that create opportunities to encourage reverse commuting and live-work developments.

PLANNING FOR LAND USE MIX & DENSITY IN TOD:

- **Residential:** encourage diverse residential uses, with denser housing and mixed-use buildings closest to the train station
- **Retail:** encourage pedestrian activity by requiring a minimum percentage of the ground floor space of the buildings closest to the train station to be active retail
- **Office:** encourage office and commercial space on upper floors and/or on the ground floor of buildings further from the train station

Residential Land Use. In general, concentrating greater numbers of housing units in proximity to the train station can reduce the number of vehicular trips generated by the development. Residential land uses can be located on the upper floors of mixed-use buildings or in stand-alone, denser housing types such as townhomes and small, multifamily buildings. Overall, greater residential density is encouraged near transit; however, the form of density is based on the station area typology (see *Section 2: Station Area Typology*).



Although the Madison at Lansdale Station development is primarily residential, the building closest to the train station is mixed-use, with ground floor commercial space that fronts onto public gathering space, with apartments above.

Retail Land Use. Neighborhood-oriented commercial uses such as grocery stores, restaurants, and coffee shops, as well as entertainment and personal service uses, should be integrated into most transit-oriented developments to encourage walking and support a livable environment for residents and visitors within the development and nearby neighborhoods. Mixed-use buildings with ground floor commercial space, especially retail, encourage pedestrian activity (see the Walkability and Pedestrian Design section below). Outdoor dining and displays associated with retail establishments also serve to activate the streetscape (see the Placemaking section below).



The commercial portions of the Point at Pennbrook Station development are located closest to the train station and connected to the residential portion of the development via a network of sidewalks.

Office Land Use. Employment-generating land uses, such as large office buildings, are also an important component of transit-oriented developments, especially in the Mixed-Use Regional Center and Suburban Employment Center station area typologies. In general, stand-alone office buildings should be located further from the train station and on secondary streets, where possible. However, smaller offices can also be accommodated on the upper floors of mixed-use buildings, such as those that are common in Town Center station areas.



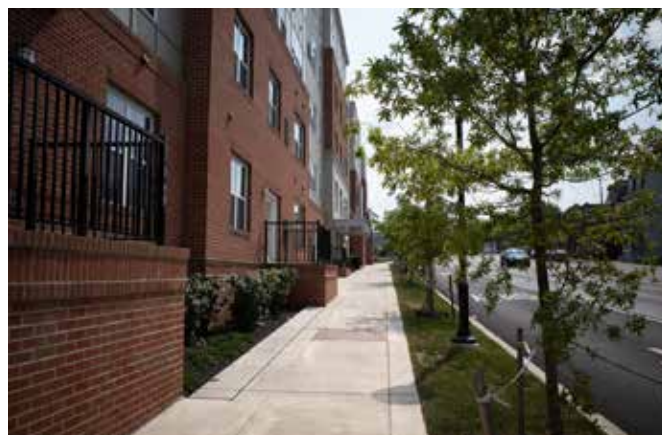
A grouping of mid- to high-rise office buildings with structured parking make Conshohocken a significant employment center within the county.

WALKABILITY AND PEDESTRIAN DESIGN

...pedestrian accessibility is integrated into all aspects of the development...

Walkability should be prioritized so that people who live in or visit the TOD can access nearby services, amenities, and transit stops without having to drive. An interconnected street grid and sidewalk network are integral to providing safe and convenient pedestrian connections and access to the station and other areas of the development. A combination of pedestrian-scaled building design and attractive pedestrian paths helps to create a safe and inviting pedestrian environment. Unique streetscape design that is integrated throughout the development helps to create a sense of place and can be designed to accommodate activities such as outdoor dining that contribute to the development's livability.

Interconnected Street Grid. Within TODs, streets are interconnected to encourage accessibility for all modes of transportation. In general, new roadways within the development, especially in Town Centers and Village Centers, should build upon a gridded street pattern to improve accessibility for users of all modes of transportation, including motorists, pedestrians, and bicyclists. Single-family residential developments within the TOD should take advantage of an alley layout so as to minimize front-loading garages and driveways that can disrupt walking paths. Additional pathways and wayfinding signage should be incorporated into larger blocks to create additional connections between areas of the development.



Wide sidewalks with a landscaped buffer and street trees between the sidewalk and street create a more comfortable walking experience at the Station at Willow Grove development.



Continental-style crosswalks and pedestrian push-button signals improve pedestrian access between The Station at Willow Grove development and the Willow Grove train station.

PLANNING FOR WALKABILITY & PEDESTRIAN DESIGN IN TOD:

- **Interconnected Street Grid:** *require new streets to be designed around an interconnected grid to encourage accessibility for all users*
- **Pedestrian-Oriented Building Entrances:** *require building entrances that are pedestrian-oriented and articulated to provide visual interest*
- **Sidewalks and Pedestrian Pathways:** *require continuous sidewalks of a minimum width to accommodate pedestrian circulation throughout the development*
- **Landscape Elements:** *encourage pedestrian activity by creating a cohesive and attractive streetscape through a combination of street trees and a landscaped verge*

Pedestrian-Oriented Building Entrances. Transit-oriented developments should require pedestrian-oriented building entrances along all street frontages of new buildings. Entrances should be appropriately spaced to provide pedestrian access to all parts of the building and articulated to provide visual interest along the streetscape.

Sidewalks and Pedestrian Pathways. Sidewalks and internal pedestrian pathways should be integrated into all aspects of the development to create a built environment that encourages walking. All streets and intersections within a TOD should

also include clearly-marked crosswalks and ADA accessibility considerations. Sufficient sidewalk width should be provided throughout the development, with wider sidewalks located in commercial areas and closer to the train station.

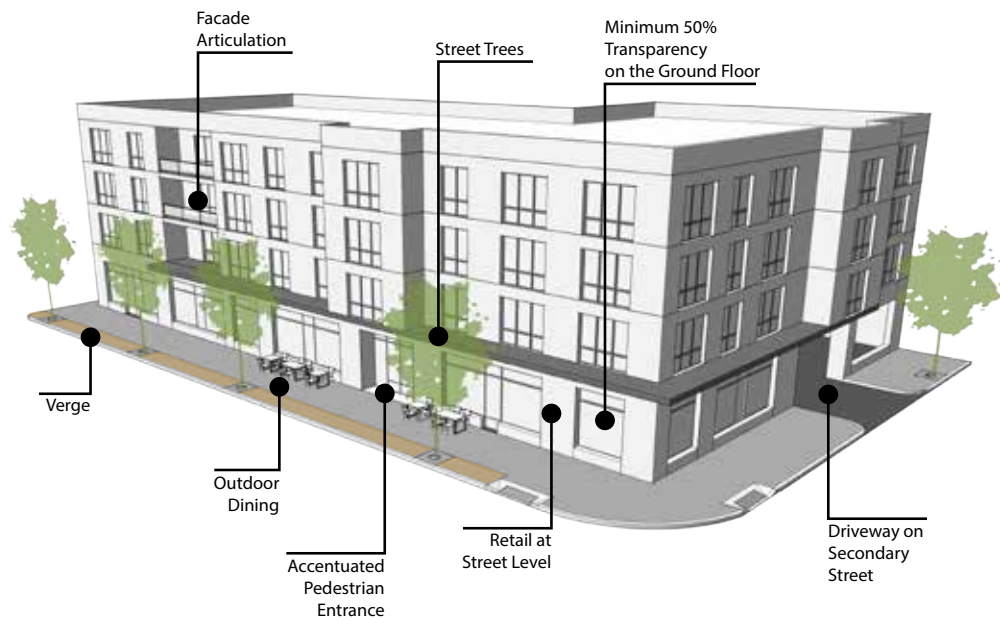
Landscape Elements. Landscape elements help to create a livable, human-scaled experience and contribute to the pedestrian-friendly feel of a development. Street trees and landscape strips (or verges) along sidewalks can be used to establish a cohesive streetscape design and also act as a buffer from vehicular traffic to help pedestrians feel welcome within the development.



A traffic circle with attractive landscaping calms traffic through the multifamily residential portion of The Point at Pennbrook Station development.



Recent infill development at the Suburban Square shopping center near the Ardmore train station created a new public gathering space that is connected to the existing shopping center via a raised pedestrian crosswalk.



The TOD model ordinance includes building and streetscape design standards to help ensure development within the TOD district is walkable and pedestrian-oriented.

BUILDING DESIGN

...buildings are designed to provide visual interest and focal points within the development...

Compact development and commercial amenities near the station help minimize the impact of development spreading into existing neighborhoods, or further from the station, where it is less walkable. Therefore, taller buildings should be encouraged closer to the train station. In addition, ordinances to encourage transit-oriented developments around train stations should include detailed design standards for buildings. In general, buildings within a TOD should be designed and located to encourage pedestrian activity and create a welcoming streetscape. The appropriate dimensional standards for buildings within a TOD is dependent on the station area typology (see Section 2: Station Area Typology).

Building Height. Building height has a direct relationship to the density that can be accommodated within the development. TOD ordinances should encourage taller buildings, and therefore greater density, closest to the train station. In most station area typologies, requiring that new buildings have a minimum height of at least two stories helps encourage greater density of development and more efficient use of the land closest to the train station. The ideal height range of buildings within a TOD is based on the station area typology (see Section 2: Station Area Typology). A stepback¹⁴ above the lower levels of taller buildings can reduce the feeling of building bulk from the pedestrian's perspective along the street.



The Madison Lansdale Station development includes buildings of varying height, with the tallest building located closest to the Lansdale train station. Cohesive building design and materials tie the buildings together.



The Cricket Flats development in Ardmore utilizes a building stepback along the main building frontage above the third story to create a context-sensitive transition between the new construction and the existing three-story buildings on the block.

PLANNING FOR BUILDING DESIGN IN TOD:

- **Building Height:** establish a minimum building height to ensure adequate density; allow taller buildings closest to the train station; and require a stepback in the building façade, generally above the third floor, to maintain a pedestrian-scale along the street
- **Building Frontage Occupation:** ensure primary streets have continuous building frontage along the sidewalk by establishing a build-to line or a maximum front setback
- **Façade Design:** minimize the amount of blank wall space, require façade articulation along long blocks, and improve the public space by including design elements and architectural details

¹⁴ A "stepback" is a setback in the façade of the building above the lower levels. The height at which the stepback should be required is based on whether it is a stand-alone or infill building. The overall building height and stepback requirement for infill buildings should be based on the height of existing buildings on the block.

Building Frontage Occupation. Generally, buildings within a TOD should be built-up to the sidewalk, especially along primary street frontages closer to the train station. A consistent frontage occupation¹⁵ is critical in creating a vibrant streetscape and pedestrian experience within the development. Requiring a build-to line,¹⁶ or maximum front setback, can help ensure a continuous frontage along the sidewalk. Equally important is ensuring the frontage is activated with pedestrian-friendly amenities such as storefront windows, outdoor dining, and landscaping.

Façade Design. Blank walls along the street detract from the pedestrian experience. To minimize the amount of blank wall space and improve the public realm, design elements and architectural details should be integrated into the building design.

Building materials can be used to visually distinguish a large façade or replicate the appearance of the smaller storefronts common in historic Town Centers. Using multiple building materials to articulate large façades can add visual interest and accentuate window and door openings that can help make

infill development more context-sensitive. Requiring a minimum percentage of primary building façades to be composed of transparent windows also contributes to a pleasant streetscape and encourages pedestrian activity.



The Station at Willow Grove development uses façade articulation and different building materials to provide visual interest along the streetscape.



Lower density housing along walkable streets is an appropriate land use for several of the station area typologies, including Suburban Neighborhood stations, such as Crestmont.

¹⁵ The amount of a street frontage that is occupied by buildings is referred to as “frontage occupation.”

¹⁶ A “build-to line” refers to the location along the street frontage(s) of the site where the building facade must be built-up to.

PLACEMAKING

...well-designed public and private gathering spaces create a sense of place and encourage social interaction...

Placemaking refers to the way buildings and spaces are designed in order to create a sense of place within a TOD. The design of the public spaces within the development, including the streetscape, should be focused on encouraging pedestrian activity and social interaction.

Public & Private Gathering Spaces. Transit-oriented developments should provide prominent, centrally located, and well-designed public and private gathering spaces. Public gathering spaces should be designed to be inviting, easily accessible from the primary streets within the development, and flexible so as to accommodate a variety of uses, including programming for events such as farmers' markets and live music to attract people.

Spaces between buildings can be optimized as gathering places, such as plazas and pocket parks, and can integrate streetscape elements like landscaping and movable furniture to create a place that is comfortable for people to sit in and linger. Private gathering spaces should be pleasant and more intimate to allow for the natural interaction between neighbors.

Activation of the Streetscape & Gathering Spaces. Sidewalks within commercial portions of the TOD should be wide enough to comfortably accommodate outdoor dining areas and significant pedestrian activity. Plazas and pocket parks should also be located and designed to allow commercial activity to spill out of adjacent commercial buildings. Larger TODs should incorporate flexible spaces that can be used for events such as concerts and festivals that attract visitors.



A series of public and private open spaces incorporate landscaping and amenities and help to connect the various buildings that are part of the Madison Lansdale Station development



A central gathering space and pedestrian walkway connects pedestrians through the Courts at Spring Mill development for convenient access to the Spring Mill train station.

PLANNING FOR PLACEMAKING IN TOD:

- **Public & Private Gathering Spaces:** *require a minimum percentage of the tract area to be allocated to public and private gathering space*
- **Activation of the Streetscape & Gathering Spaces:** *provide space for outdoor dining along streets and design public spaces to flexibly accommodate different types of events and activities*
- **Landscape & Streetscape Design:** *use landscape elements to define spaces and create a sense of place through a cohesive streetscape design that connects areas of the development*

Landscape & Streetscape Design. The landscape design within a TOD's gathering spaces and streetscape should create an inviting atmosphere for residents and visitors to walk to and from their destinations. Specifically, landscaping should be used to create and enclose spaces, establish a streetscape pattern, and soften the visual impact of buildings. Integrating sustainable landscape design, in addition to beautifying the development, can help reduce the heat-island effect and actively contribute to the health of the community. Plant selection must also be context-sensitive; selecting trees and shrubs that thrive in smaller spaces and are tolerant of urban conditions is critical.



Green spaces and plazas, such as this one in Suburban Square, should be designed to be flexible in order to accommodate a range of activities and events that draw visitors to the TOD year-round.



The Grant development near the Bala train station in Lower Merion Township incorporates a prominent retail space on the corner. A pedestrian plaza provides landscaping and seating areas adjacent to the retail space.

PARKING

...parking is treated as a shared resource and designed to reflect increased use of alternative modes of transportation...

Within a TOD, it is important to balance demand for convenient commuter parking and demand for parking to service the residences and businesses within the development. While vehicular access should be a consideration in any type of development, parking should not be the focus of transit-oriented developments. Any parking that is present should be sized, located, and designed to minimize its visual impact and encourage alternative modes of transportation. Parking management should reflect the anticipated reduced demand for vehicle parking in mixed-use developments. Alternative parking arrangements, such as cooperative parking or using on-street parking to count towards minimum parking requirements, help to provide flexibility for developments.

Many of Montgomery County's municipalities may not have enough density to support a completely car-free lifestyle. However, utilizing these recommended TOD principles can support a reduction in overall car usage, so that households that may have needed multiple cars if they were living in a different location, can use other modes of transportation (including transit) for many of their trips, thereby reducing their dependence on automobiles.

Parking Location & Design

On-street Parking. On-street parking provides convenient parking for commercial uses and helps to create a buffer between vehicular traffic and pedestrians on the sidewalk. On-street parking can also function as a form of traffic calming by narrowing the roadway and slowing vehicular travel speeds, which can make other modes of transportation such as bicycling more comfortable. Convenient on-street parking should be metered and priced appropriately to ensure frequent turnover and discourage use by transit commuters.



Public parking near the train station, often municipally-managed in many of the county's Neighborhood Village Center station areas such as Glenside, can serve both commuters and shoppers.

PLANNING FOR PARKING IN TOD:

Parking Location & Design:

- **On-Street Parking:** provide on-street parking that is convenient parking for retail uses and contributes to the streetscape
- **Surface Parking:** when used, locate surface parking lots away from the train station and screen the lots from the street frontages
- **Structured Parking:** encourage parking garages which are an efficient use of land within TOD
- **Green Parking:** incorporate landscaping within parking areas to help soften the visual impact of parking lots, as well as provide environmental benefits

Parking Policy & Management:

- **Parking Requirements:** reduce parking minimums to reflect increased use of alternative transportation
- **Shared Parking:** treat parking as a shared resource to be used more effectively
- **Additional Vehicle Reduction Options:** implement additional strategies to encourage alternative modes of transportation

Surface Parking. Surface parking should be discouraged; excessive amounts of land devoted to surface parking lots undermines the pedestrian environment and character of TODs. When necessary, surface parking lots should be located away from the train station area, placed at the rear and side of buildings, and accessed by alleys and side streets. Surface parking should be designed to reduce its visual impact, such as utilizing plantings or public art to screen and obscure the view from the street and sidewalk.

Structured Parking. Structured parking within mixed-use buildings or garages is more suitable for transit-oriented developments because it is a more efficient use of valuable land near train sta-

tions and can help preserve the pedestrian environment when designed correctly. For example, the ground level of garages can be “wrapped” with uses, such as retail, to activate the street and obscure views of the parked cars.

Green Parking. Landscape elements are critical to reducing the visual impact of parking. Properly selected plant materials can help to soften the pedestrian’s view of surface parking. Plant selection must be context sensitive, selecting trees and shrubs that thrive in smaller spaces and are tolerant to urban conditions. Taller structures can use vines and other natural shielding concepts to achieve the same screening effect.

Parking Policy & Management

Parking Requirements. Parking requirements for TODs should reflect the increased use of alternative modes of transportation. Specifically, parking minimums¹⁷ should be determined by the land use type and intensity of the TOD district, and the specific needs of each TOD site will vary by station area typology. Reducing required parking minimums in the zoning ordinance, and in some cases eliminating parking minimums altogether, is one strategy to reduce the amount of land dedicated to parking lots. Residential buildings should also consider unbundling¹⁸ parking spaces from a rental fee.

Shared Parking¹⁹. Shared parking allows a TOD to function with fewer total parking spaces, reducing individual building or agency costs. In a centralized parking structure, cooperative parking²⁰ is supportive of mixed-use, transit-oriented developments by allowing people to park once and walk to multiple destinations. Cooperative parking is more likely to be found in, and best suited for, more intensive TOD typologies, such as Regional Mixed-Use Centers. For surface parking lots, vehicular access should be provided between adjacent lots through common driveways and cross-access easements.

Additional Vehicle Reduction Options. Additional methods can be used to reduce the demand for vehicle ownership and usage. Promoting car share depots, designing curbside pick-up and drop-off locations for ridehailing (such as taxis, local shuttle services, Uber, and Lyft), and providing secure bicycle parking at the train station, and other nearby businesses, are all examples of strategies to help to promote alternative modes of transportation.



A large parking structure supports the residents and visitors of the Station at Willow Grove development; however, by wrapping the building around the parking structure and locating the entrance off of a side street, the visual presence of the structure is minimized.



The parking garage at The Courts at Spring Mill development is screened using a combination of landscaping and façade articulation that mimics the residential floors above.

- 17 Based on a DVRPC analysis of residential demand for parking in TODs, published in early 2020, an average of 1.25 parking spaces per residential unit results in sufficient parking availability and high utilization rates.
- 18 Unbundling housing and parking costs within TODs, and charging separate fees for each, can reduce housing costs and encourage decreased vehicle ownership. Charging separately for parking within the TOD may incentivize use of alternative modes of transportation.
- 19 Shared parking, as used here, is a method of calculating parking requirements for mixed-use developments so that one parking space serves two or more uses due to different peak periods of parking demand for different uses.
- 20 Cooperative parking, as used here, refers to the management of a single parking area to serve the parking needs of multiple users. Leasing agreements between participating tenants may be required to ensure equitable distribution of spaces and to help defray the cost of constructing additional parking infrastructure.

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MODEL TRANSIT-ORIENTED DEVELOPMENT (TOD) ORDINANCE



This model ordinance is offered as a template for municipalities interested in creating a transit-oriented development zoning district for the area in proximity to rail transit stations, to encourage appropriate development and increased transit use.

Using this Model Ordinance

Some standards contained within the model ordinance, such as permitted uses and maximum building height, are shown to vary based on the station area typology.

Municipalities or others utilizing this model ordinance should select the use and dimensional standards that they feel are most relevant to the station area for which they are planning for, using the station area typology (see Section 2, Station Area Typology, on pages 19-50) as a guide.

Municipalities with multiple train stations in proximity to each other may wish to consider adopting the same standards for all of their stations, using more of a corridor approach.

NOTES

Space is provided in a sidebar throughout the model ordinance for the user to make notes. In addition, explanatory information and photos are provided in this space, where applicable.

A. Purpose & Intent

It is the intent of the Transit-Oriented Development (TOD) District to encourage walkable, mixed-use development near train stations. Further, it is the specific intent of the TOD District to:

1. Encourage an intensity of development and a complementary mix of land uses near train stations that is compatible with and supportive of increased transit ridership and fosters the creation of a livable community with opportunities to live, work, and play within walking distance of convenient transit facilities.
2. Encourage land uses and site design practices that promote the use of alternative modes of transportation, including rail, bus, bicycling, and walking, thereby reducing traffic congestion from individual automobile use.
3. Promote economic revitalization of train station areas by encouraging innovative, transit-oriented infill development and redevelopment of underutilized land near train stations.
4. Enhance the visual character and walkability of the train station area through appropriate building scale, high-quality building design and materials, and landscaping.
5. Create an accessible and walkable environment through the development of buildings that are pedestrian-oriented with storefronts and building entrances that have direct connections to an interconnected sidewalk network.
6. Encourage shared parking between compatible uses on the same or on adjacent lots, wherever feasible, to minimize the number of curb cuts that interrupt the pedestrian network and to provide for more efficient utilization and distribution of parking within the TOD District.
7. Foster well-designed vibrant public and private gathering spaces that create a sense of place and encourage social interaction.
8. Encourage the provision of additional amenities that benefit the public health, safety, and welfare, such as moderate-income housing, adequate open space, efficient roadways, safe bicycle and pedestrian connections, stormwater management, and green building practices.

B. Applicability

1. The TOD Ordinance standards shall apply to the area identified as the Transit-Oriented Development (TOD) zoning district in the [Municipality] Zoning Map.

NOTES

Applicability

The exact area that the TOD ordinance applies to will be different for each municipality, and Section B should be modified accordingly. This model ordinance was written using the assumption that the ordinance would apply to the area within a ½-mile radius of a rail transit station; however, each community is different and the applicability should be based on the station area typology and specific site context. For example, individual municipalities may wish to exclude certain lands from the TOD District, such as preserved open space or floodplains that are not suitable for increased development.

Mapped vs. Overlay District

A TOD zoning district could be applied as either a mapped zoning district to replace the existing zoning around the station area, or as an overlay district that applies on top of the existing base zoning.

The model TOD ordinance was written assuming that it would be applied as a stand-alone, mapped district. On the other hand, an overlay district approach may be more appropriate in certain situations, such as when a municipality wishes to encourage TOD-style development only on lots of a minimum size within the station area.

Municipalities considering using an overlay district approach should consider conducting additional analysis to avoid potential conflicts or confusion between the TOD overlay district regulations and the base zoning. In general, a conflicts clause may also be helpful.

Sample Conflicts Clause:

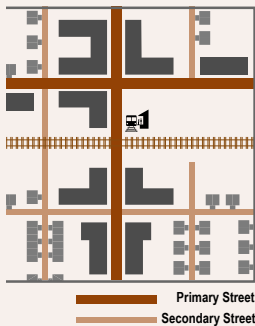
"In the event any of the sections and/or standards contained herein conflict with other sections of the [municipality] zoning ordinance or subdivision and land development ordinance, the provisions of this section shall apply."

NOTES

Primary vs. Secondary Streets

Once the municipality identifies the boundaries of the station area for which the TOD ordinance will apply, the municipality should make a map of the station area identifying which streets are considered primary streets and which are secondary streets. This distinction will determine how certain land use and building design standards within the model ordinance are applied.

The image below is an example of the type of map the municipality could create and insert into Section B.2. in order to establish what are the primary and secondary streets within the station area.



Definitions

The model ordinance was written to include definitions for all unique terms used in the ordinance. However, when considering applying this model ordinance, individual municipalities should compare this list of definitions to existing definitions in their zoning and/or subdivision and land development ordinances to ensure consistency and remove or modify definitions as needed.

Cooperative Parking vs. Shared Parking

In this model ordinance, the term “cooperative parking” refers to the management of a single parking area, whether a surface parking lot or parking structure, to serve the parking needs of multiple users.

On the other hand, “shared parking” is used in this ordinance to refer to a calculation method that reduces the minimum parking required for mixed-use developments.

2. **Primary and Secondary Street Frontage.** Certain use, dimensional, and design standards within the TOD District vary by primary and secondary street frontage. All existing public and private streets within the TOD District are identified as either primary or secondary streets in the map below.

[Insert map of primary and secondary streets for station area]

C. Definitions

1. **Artisanal Manufacturing.** The on-site production, display, and sale of hand-fabricated or hand-manufactured parts and custom or craft consumer goods based on the skill and knowledge of the artisan and the use of hand tools or small-scale, light mechanical equipment. This involves activities such as small bakeries, candy or soap making, coffee roasters, breweries, distilleries, or the custom production of artisan products such as apparel, cabinetry, glass working, jewelry making, metal working, pottery, sculpture, wood working, and leather working.
2. **Bed & Breakfast.** An owner-occupied single-family detached dwelling in which short-term lodging rooms and breakfast meals are provided for compensation.
3. **Boutique Hotel.** A hotel, as defined herein, with a maximum of 40 guest rooms.
4. **Buffer.** A strip of land of a certain width generally intended for vegetation such as trees or shrubs or other man-made elements, with the purpose of separating and/or partially screening the view of two adjacent uses or properties from one another.
5. **Build-to Line.** A line established within a given lot, which is a certain distance from the curb line, along which the building shall be built.
6. **Building Frontage.** The length of a building façade measured in a single straight parallel line with the abutting street(s) or parking lot(s).
7. **Building Stepback.** A setback or horizontal offset in the façade of the building above the lower levels.
8. **Common Open Space.** An area of land within a development site designed and intended for the use or enjoyment of residents or users of the development.
9. **Cooperative Parking.** An arrangement in which two or more uses provide their required off-street parking in the same parking area, thereby reducing the number of individual parking areas and the number of curb cuts required to serve such parking areas.
10. **Duplex.** A single building designed as a single structure containing two separate dwelling units.

11. **Façade Articulation.** The visible expression of architectural or landscape elements through form, structure, or materials that break up the scale of buildings and spaces to achieve human scale.
12. **Frontage Occupation.** The percentage of the street frontage that is occupied by a building.
13. **Green Roof.** An engineered, multilayered roofing system sustaining the growth of plants on a rooftop while protecting the integrity of the underlying structure. The components of a green roof generally consist of, but may not be limited to, a waterproofing membrane, root barrier, drainage layer, retention layer, filter fabric, growing medium, and plants.
14. **Hotel.** A building designed for occupancy as the temporary residence of individuals. The facility may include meeting rooms, dining facilities, a bar/lounge, and ancillary recreational uses as accessory uses or structures incidental to the hotel operation.
15. **Live-Work Unit.** A dwelling unit that contains ground floor commercial space.
16. **Moderate-Income Housing.** Housing which is deemed to be affordable to those with a median household income (as rated by the national government or a local government according to a recognized housing affordability index), where the housing costs, including utilities, do not exceed 30% of the occupant's income.
17. **Oriel Window.** An oriel window is a form of bay window which protrudes from the main wall of a building but does not reach to the ground. Supported by corbels, brackets, or similar cantilevers, an oriel window is most commonly found projecting from an upper floor but is also sometimes used on the ground floor.
18. **Outdoor Dining Area.** An outdoor dining area located on the sidewalk or other open area in front of or adjoining a restaurant, coffee shop, or other food service establishment. The outdoor dining area use shall be accessory to a permitted restaurant, coffee shop, or other food service establishment.
19. **Parking Structure.** A structure of more than one level designed for the temporary or long-term storage of motor vehicles and which may contain access ramps. May be a freestanding structure or incorporated within a building. *Also referred to as "structured parking".*
20. **Party Wall.** A wall common to but dividing contiguous buildings; such a wall contains no openings and extends from its footing below the finished ground grade to the height of the exterior surface of the roof.

NOTES

Frontage Occupation

See §F.1. for more information on how frontage occupation is calculated.

Outdoor Dining Area



Skipack Village, Skipack Township

NOTES

Predominant Setback

See §F.3. for more information on how predominant setback is calculated.

Public Gathering Space



King of Prussia Town Center, Upper Merion Township

Shared Parking

See §K.2. for more information on how shared parking requirements are calculated for mixed-use developments.

21. **Pedestrian-Oriented.** A design principle that emphasizes development and infrastructure that improves the access and environment for pedestrians, rather than automobile users.
22. **Pervious Pavement.** A pavement type designed to allow percolation or infiltration of stormwater through the surface into the soil below where the water is naturally infiltrated.
23. **Predominant Setback.** A front setback equal to the median front setback of the existing principal buildings along a common street frontage.
24. **Public Gathering Space.** Public or private outdoor space where the public is directly or indirectly invited to visit or permitted to congregate.
25. **Quadruplex (Quad).** An arrangement of two attached buildings, connected by a common party wall, designed for and occupied exclusively as a permanent residence for four households, with each half of the building having two households living wholly or partly over the other.
26. **Roof Terrace.** A private common open space, located on the roof, serving as a gathering space for tenants of a residential building.
27. **Screening.** A method of visually shielding, obscuring, or concealing one abutting or nearby structure or use from another using fencing, walls, berms, or densely planted vegetation.
28. **Shared Parking.** A calculation method that determines the number of parking spaces necessary to meet the parking demand on a site where there are multiple uses with different peak periods of parking demand.
29. **Stacked Townhome.** A townhome that has two units stacked vertically that may or may not share a middle floor.
30. **Storefront.** Display windows of a building housing a commercial use visible from a street, sidewalk, or other pedestrianway accessible to the public.
31. **Story.** A level within a building by which building height is measured. The space in a structure between the upper surface of a floor and the upper surface of the floor or roof next above. However, where the floor level of the first story is at least five feet below the adjoining finished grade, the space shall be considered a basement and not counted as a story.
32. **Street Frontage, Primary.** The lot frontage located along a primary street, as defined in §B.2.

33. **Street Frontage, Secondary.** The lot frontage located along a secondary street, as defined in §B.2.
34. **Streetscape.** The area that is between the buildings on either side of a street, including the public or private street right-of-way, which defines its character. The elements of a streetscape include building frontage/façade, landscaping, sidewalks, street paving, street furniture, signage, architectural elements such as awnings, and street lighting.
35. **Townhome.** A single-family attached dwelling in a row of at least three units, having one or more common walls, with individual outside access.
36. **Transparency.** The percentage of a building façade that is occupied by the transparent glass surface of windows and doors that allows visual permeability into and out of the building. *Also referred to as "glazing."*
37. **Transportation Demand Management (TDM).** The implementation of programs, plans, or policies designed to encourage changes in individual travel behavior and make efficient use of the existing transportation systems. TDM can include an emphasis on alternative travel modes to the single occupant vehicle such as carpools, vanpools, transit, walking, and biking, reduction or elimination of the number of vehicle trips, or shifts in the time of vehicle commutes to other than the peak period.
38. **Twin.** A single building that contains two separate permanent residential units side-by-side and joined together by a common party wall, but otherwise surrounded by yard areas.
39. **Verge.** A strip separating a sidewalk from the curb consisting of grass, landscaping, street furniture, or decorative paving.

D. Use Regulations

1. A building may be erected, altered, or used, and a lot may be used or occupied, for one or more of the following permitted or regulated uses, and no other:

NOTES

Permitted Uses

See Table 1 on the following page for a summary of which uses are most appropriate for each station area typology. See Section 2 "Station Area Typology" of this document for more information on station area typologies. Map 5 on page 20 of this document shows the recommended station area typology for all stations in Montgomery County.

When a municipality is using this ordinance template, any references to station area typologies that are not relevant to the station they are planning for can be removed. If a municipality is writing a TOD district that would apply to multiple station areas with different typologies, a simplified use table may be helpful.

Use-Specific Regulations

Section D.2. on page 71 includes additional regulations for those uses identified as "P-R – Permitted Use with Additional Use-Specific Regulations." However, municipalities may wish to consider making these conditional uses or special exceptions if that's the municipality's preferred tool for applying additional use-specific regulations.

TABLE 1: PERMITTED AND REGULATED USES BASED ON STATION AREA TYPOLOGY

PERMITTED USE	STATION AREA TYPOLOGY				
	REGIONAL MIXED-USE CENTER	TOWN CENTER	NEIGHBORHOOD VILLAGE CENTER	SUBURBAN EMPLOYMENT CENTER	SUBURBAN NEIGHBORHOOD
RESIDENTIAL USES					
MULTIFAMILY	P-R	P-R	P-R	P-R	P-R
STACKED TOWNHOMES	P	P	P	P	
TOWNHOMES		P	P	P	P
LIVE-WORK UNITS	P-R	P-R	P-R	P-R	
QUAD/TWIN/DUPLEX		P	P	P	P
SINGLE-FAMILY DETACHED					P
NON-RESIDENTIAL USES					
RETAIL SHOPS*	P	P	P	P	P-R
RESTAURANTS AND OTHER FOOD OR BEVERAGE ESTABLISHMENTS*	P	P	P	P	P
PERSONAL SERVICE BUSINESSES AND FINANCIAL INSTITUTIONS	P	P	P	P	
OFFICE	P	P	P	P	
FLEX/LIGHT INDUSTRIAL	P			P	
ARTISANAL MANUFACTURING*	P	P	P	P	
HOTELS*	P	P		P	
BOUTIQUE HOTEL *	P	P	P	P	
BED & BREAKFAST		P-R	P-R		P-R
ENTERTAINMENT, THEATERS, GALLERIES, MUSEUMS*	P	P	P	P	
PUBLIC TRANSIT FACILITIES	P	P	P	P	P
GOVERNMENT ADMINISTRATIVE USES (POST OFFICES, COMMUNITY CENTERS, LIBRARIES)	P	P	P	P	
SCHOOL, DAY CARE CENTER	P	P	P	P	P
STUDIOS FOR DANCE, MUSIC, FITNESS, ART, OR PHOTOGRAPHY	P	P	P	P	
OTHER USES					
PARKS, OPEN SPACES, PLAZAS	P	P	P	P	P
PARKING STRUCTURE	P	P	P	P	

P: Permitted Use

P-R: Permitted Use with Additional Use-Specific Regulations
(see §D.2. Additional Use-Specific Regulations below)

* Non-residential uses marked with an asterisk (*) are considered “active streetfront commercial uses” as regulated herein.

NOTES

Parking Structure

This use refers to a parking structure as a principal use on the lot, rather than an accessory use to another use on the lot.

Active Streetfront Commercial Uses

Certain building types, depending on the station area typology and other factors, require active streetfront commercial uses on the ground floor. These uses, as specified in Table 1 on the previous page, generally have more pedestrian-traffic throughout the day and therefore contribute to a lively street environment within the station area. These uses should be designed with street-facing entrances and welcoming storefront windows (see example photos below).



Ardmore, Lower Merion Township



Fayette Street, Conshohocken Borough

2. Additional Use-Specific Regulations.

- a. *Multifamily Buildings* are permitted, provided the following standards are met:
 - (1) In all station areas, private gathering space shall be provided for the residents of a multifamily building. Additional public gathering space may be provided in exchange for a building height bonus (see Bonus Provisions in §G. Bonus Provisions to Increase Building Height).
 - (2) In all station areas, active street front commercial is required along the primary street frontage of multifamily buildings within 600 feet of the train station measured from the midpoint of the inbound station platform. Residential uses may be located on the second story and above.

NOTES

- (3) In Suburban Neighborhood station areas, residential uses may be provided on the first floor of the secondary street frontage of any multifamily building.
- (4) In Suburban Neighborhood station areas small-scale multifamily, consisting of no more than eight (8) residential units per building, shall be permitted.
- b. *Live-Work Units* are permitted in Regional Mixed-Use Center, Town Center, Neighborhood Village Center, and Suburban Employment Center station areas, provided the following standards are met:
 - (1) Permitted ground floor uses include any of the non-residential uses that are listed as permitted in that station area typology in Table 1 above.
 - (2) The non-residential use on the ground floor along a primary street frontage shall occupy a minimum of 75% of the width of the building excluding entrances for upper floors.
- c. *Retail* is permitted in Suburban Neighborhood station areas, provided the building footprint does not exceed 10,000 square feet.
- d. *Bed & Breakfasts* are permitted in Regional Mixed-Use Center, Town Center, Neighborhood Village Center, and Suburban Employment Center station areas, provided the following standards are met:
 - (1) The owner(s) of the bed & breakfast must occupy the dwelling unit as their principal residence.
 - (2) A maximum of five (5) guest sleeping rooms shall be permitted.
 - (3) The length of stay within a bed & breakfast shall not exceed 14 consecutive days in any six-month period.
 - (4) As part of the price of the lodging room, overnight guests may be provided with up to one meal per day. Any meal service provided shall be for overnight guests only.
 - (5) Separate kitchens in guest rooms shall be prohibited.

3. **Prohibited Uses.** The following uses, as well as any use not specifically permitted, are specifically prohibited within the TOD District:

- a. Drive-through windows or facilities
- b. Automobile or other vehicle sale, service, or repair establishments
- c. Gasoline service station and filling station
- d. Self-service storage facilities
- e. Adult entertainment uses

E. **Dimensional Standards**

All lots within the TOD district shall meet the following dimensional requirements:

NOTES

Prohibited Uses

The TOD District should prohibit automobile-oriented uses that detract from the transit- and pedestrian-oriented environment. However, if the municipality wishes to permit these types of uses, additional design standards should be applied. For example, additional screening requirements and access controls may be needed for drive-through uses to maintain the pedestrian-friendly feel of the TOD district overall.

Dimensional Standards

See Table 2 on the following page for a summary of the dimensional standards that are most appropriate for each station area typology. See Section 2 “Station Area Typology” of this document for more information on station area typologies. Map 5 on page 20 of this document shows the recommended station area typology for all stations in Montgomery County.

When a municipality is using this ordinance template, any references to station area typologies that are not relevant to the station they are planning for can be removed. If a municipality is writing a TOD overlay district that would apply to multiple station areas with different typologies, a simplified use table may be helpful.

TABLE 2: DIMENSIONAL STANDARDS BASED ON STATION AREA TYPOLOGY

DIMENSIONAL STANDARDS	STATION AREA TYPOLOGY				
	REGIONAL MIXED-USE CENTER	TOWN CENTER	NEIGHBORHOOD VILLAGE CENTER	SUBURBAN EMPLOYMENT CENTER	SUBURBAN NEIGHBORHOOD
BUILDING HEIGHT					
• MINIMUM	4 STORIES, AND A MINIMUM OF 48 FEET	3 STORIES, AND A MINIMUM OF 35 FEET	2 STORIES, AND A MINIMUM OF 28 FEET	N/A	N/A
• MAXIMUM BY-RIGHT	8 STORIES, UP TO 100 FEET	5 STORIES, UP TO 65 FEET	3 STORIES, UP TO 35 FEET	3 STORIES, UP TO 35 FEET	3 STORIES, UP TO 35 FEET
• MAXIMUM WITH BONUSES	10 STORIES, UP TO 120 FEET	7 STORIES, UP TO 90 FEET	5 STORIES, UP TO 65 FEET	5 STORIES, UP TO 65 FEET	N/A
IMPERVIOUS COVERAGE MAXIMUM % LOT AREA	85%	100%	80%	70%	50%
MINIMUM FRONTAGE OCCUPATION²¹	70%	90%	70%	N/A	N/A
BUILD-TO LINE²²	15 FEET	15 FEET	15 FEET	15 FEET	SINGLE-FAMILY RESIDENTIAL BUILDINGS: PREDOMINANT SETBACK ²³ OR 15 FEET ²⁴ ALL OTHER BUILDINGS: 15 FEET
MINIMUM SIDE SETBACK²⁵	0 OR 8 FEET	0 OR 5 FEET	0 OR 5 FEET	15 FEET	COMMERCIAL: 0 OR 5 FEET RESIDENTIAL: 15 FEET
MINIMUM REAR SETBACK	20 FEET	10 FEET	20 FEET	40 FEET	30 FEET
MINIMUM PARKING SETBACK^{26, 27}	0 OR 20 FEET	0 OR 10 FEET	0 OR 15 FEET	0 OR 20 FEET	20 FEET
MINIMUM BUILDING SETBACK WHERE ABUTTING A RESIDENTIAL ZONING DISTRICT	40 FEET	20 FEET	20 FEET	40 FEET	40 FEET
BUILDING STEPBACK²⁸	12 FEET	12 FEET	12 FEET	N/A	N/A
BUFFER AREA WIDTH²⁹	20 FEET	10 FEET	15 FEET	20 FEET	20 FEET

21 See General Standards, §F.1.

22 See General Standards, §F.2.

23 See General Standards, §F.3.

24 Where the predominant setback does not apply, the minimum front setback is 15 feet.

25 Zero-foot side yard setback only applies where there is a shared party wall.

26 Minimum parking setback applies to side and rear property lines. See §K.6. for additional parking lot design standards.

27 Zero-foot parking setback only applies where there is a cooperative parking agreement between the adjacent properties.

28 See General Standards, §F.

29 See General Standards, §F.5. for applicability and Buffer Design Standards, §H.4. for design standards.

F. **General Standards**

The following standards apply to all station area typologies, as applicable according to Table 2.

1. **Frontage Occupation.** Frontage occupation is regulated according to the station area typology and applies to all building frontages. The following elements shall be excluded from the frontage occupation calculation:
 - a. Sidewalks and internal pedestrian pathways;
 - b. Public gathering space;
 - c. Required minimum setbacks;
 - d. One (1) vehicular driveway per street frontage.
2. **Build-to Line.**
 - a. The build-to line may be increased by up to 25 feet, for a maximum build-to line of 40 feet, for all or part of the building frontage length, provided the additional setback area is used for either public plaza space, outdoor dining areas, or additional landscaping space between the building and the street.
 - b. Where a build-to line requirement applies, architectural features such as overhangs, oriel windows, upper floor balconies, loggias, pergolas, and similar architectural features may extend beyond the build-to line up to three (3) feet.

NOTES

Development Limits

This model TOD ordinance does not specify a maximum residential density or floor area ratio (FAR), in part to encourage a mixture of unit sizes, and therefore a range of housing prices, that may be affordable to more households.

In addition, other dimensional standards that limit impervious coverage and building height, as well as minimum parking and open space requirements for most developments – taken together will adequately limit development to a scale that can be accommodated within each site.

Building Height

Communities applying the model TOD ordinance to a Regional Mixed-Use Center station area should consider allowing more than two additional stories of height through the height bonus provisions. Regional Mixed-Use Center station areas could accommodate 12-15 story buildings.

Building Stepback

Developments in Regional Mixed-Use Center station areas may take on different forms where a building stepback may or may not be an important design feature.

For example, a building stepback can be beneficial for infill development within an established 3-5 story “Main Street” in order to maintain the pedestrian-scale of the block from the street view. However, where development of large blocks is anticipated, requiring a building stepback may not be necessary as the new buildings will not be directly adjacent to existing, smaller-scale buildings.

Frontage Occupation

“Frontage occupation” is defined as “the percentage of the street frontage that is occupied by a building.”

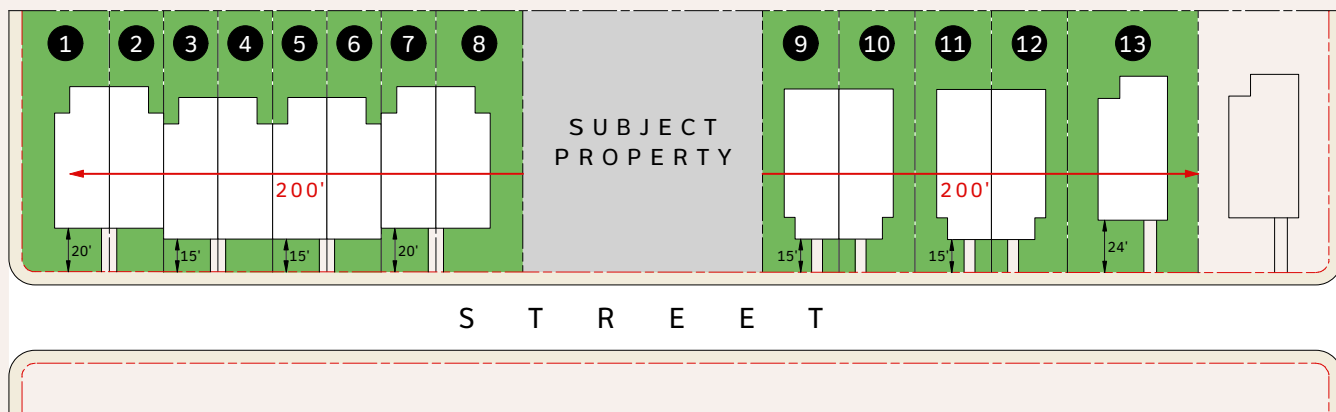
NOTES

Predominant Setback

The predominant setback is determined by calculating the median front setback of existing principal buildings on the same side of the street as the subject property, and within 200 feet on either side of the subject property as measured along the street line.

The median front setback is determined by arranging the front setbacks of the existing principal buildings in sequence from smallest to largest in size and finding the middle number. When an even number of properties is being used to determine the median, the median value is calculated by taking the average of the two middle values. The median front setback, and therefore the predominant setback, in the example illustration below is 15 feet.

3. **Predominant Setback.** The maximum front setback for new single-family detached residential buildings in Suburban Neighborhood station areas shall be equal to the predominant setback, subject to the following standards:
 - a. The predominant setback is determined by calculating the median front yard setback of existing buildings on the same side of the street as the proposed building and within 200 feet of the property's lot line, as measured along the street.
 - b. If there are fewer than three (3) qualifying buildings as defined in §F.3.a. above, the predominant setback shall not be used, and the front setback shall be as specified in Table 2 above.



Lot Number	Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10	Lot 11	Lot 12	Lot 13
Setback	20'	20'	15'	15'	15'	15'	20'	20'	15'	15'	15'	15'	24'
Setback (Ascending)	15'	15'	15'	15'	15'	15'	15'	15'	20'	20'	20'	20'	24'
Lot Number	Lot 9	Lot 10	Lot 11	Lot 12	Lot 3	Lot 4	Lot 5	Lot 6	Lot 1	Lot 2	Lot 7	Lot 8	Lot 13
	← 6						MEDIAN	← 6					

4. **Building Stepback.**

- a. The façade of the building shall be setback an additional distance, as specified in Table 2 above.
- b. The building stepback shall apply above the third floor in the following locations:
 - (1) Along the street frontage; and
 - (2) Along the side lot lines when a zero-foot side setback is applied.
- c. The amount of the building stepback may be reduced to eight (8) feet where the building is set back further than the build-to line.

5. **Buffer.** Buffer area width is regulated according to the station area typology. There shall be a buffer area along a property line within the TOD District where it abuts a residential or industrial zoning district. The buffer area shall include landscaping and other features as specified in §H.4.

G. **Bonus Provisions to Increase Building Height**

Proposed developments within the TOD District that provide public benefits, and meet all applicable standards in Table 3 below, shall qualify for a building height bonus. One additional story of building height may be granted in exchange for each four (4) bonus points earned. Each story of additional building height granted under this section shall be equal to a maximum of 13 feet in building height. The overall building height shall not exceed the maximum building height with bonuses listed in Table 2 above. Any improvements proposed as part of the below bonus options shall be provided above and beyond any improvements required elsewhere in this chapter.

NOTES

Building Stepback

The fourth floor of this building is stepped back along the street frontage side of the building.



City of Philadelphia

Buffers and Transitional Districts

Since train stations are often located in established areas, TOD Districts may abut existing residential, commercial, or industrial districts.

Municipalities may want to consider how neighboring districts could develop as transition areas between the higher-intensity TOD District and lower-intensity residential districts. If there are existing residential properties that are not zoned residential, the municipality should consider if that neighborhood could experience redevelopment and whether up-zoning to create a transitional district is needed.

However, there may be other uses that warrant a buffer, such as industrial districts. Each municipality should decide if a buffer is necessary or not based on the existing surrounding uses.

Building Height Bonuses

The height bonus options and criteria included in Table 3 on the following page represent a menu of many potential options for municipalities applying the model TOD ordinance to consider. However, municipalities should prioritize the bonus provisions that they want to incentivize with more points based on their community vision and what would be most realistic and beneficial for their particular station area.

The amount by which the building height can be increased using the provisions in this section will depend on the maximum height (with bonuses) that the municipality selects in Table 2. No height bonus is permitted in the Suburban Neighborhood station area typology.

Some of the bonus options are meant to provide direct community improvements, such as moderate-income housing or public gathering space, while others can provide indirect benefits, such as environmental sustainability provisions, including green roofs and alternative energy sources. Municipalities may wish to consider requiring improvements that could have the potential to be the most impactful for the larger community before developers can utilize other bonus options.

When evaluating the inclusion of certain bonus options, municipalities can consider potential development sites. For example, where a municipality anticipates large-site redevelopment, requiring public gathering space would be appropriate. On the other hand, a smaller municipality may wish to incentivize the inclusion of public gathering space where smaller infill development is more likely.

TABLE 3. HEIGHT BONUS OPTIONS AND STANDARDS

BONUS	POINTS	BONUS FEATURE STANDARD
MODERATE-INCOME HOUSING	4+ (see standards)	Moderate-income housing is provided as part of a development, subject to the following standards: - Four (4) bonus points shall be provided for each five (5) dwelling units, or every 10% of the total number of dwelling units, whichever is greater, that are reserved for moderate income housing. - The units shall be reserved for households with incomes not exceeding the income limits by household size specified by the Pennsylvania Housing Finance Agency for Montgomery County. - The units must remain affordable in perpetuity with a covenant that runs with the land.
PUBLIC GATHERING SPACE (PEDESTRIAN PLAZA, COURTYARD, SQUARE, OR POCKET PARK)	4	A public gathering space equal to at least five (5) percent of the lot area is constructed, subject to all relevant design standards provided in §J.
ALTERNATIVE ENERGY SOURCES	2+ (see standards)	A solar, geothermal, or other renewable energy power-generation facility is installed on-site. The number of bonus points provided shall be based on the energy generation capacity of the system. - Two (2) bonus points for 10% of the expected annual energy usage for the building produced. - One (1) additional bonus point for each additional 10% of the expected annual energy usage produced
STRUCTURED PARKING	2-3	A parking structure is constructed, subject to the following standards: - All of the required off-street parking is provided within a parking structure(s) - The parking structure meets all of the design standards provided in §K.6.c. An additional one (1) bonus point can be received for providing active streetfront commercial uses along the ground floor frontage(s) of the parking structure located on secondary streets.
GREEN ROOF	2	A green roof is installed, subject to the following standards: - Minimum area equal to 50% of the overall roof area, or 3,500 square feet, whichever is greater - Exposure to direct sunlight at noontime - The green roof design shall conform to the best available technology standards, such as those published by LEED, as approved by the municipal engineer - An operations and maintenance plan shall be prepared for the green roof and submitted to the municipality for approval

NOTES

Alternative Energy Ordinance

If considering including a bonus option for alternative energy, municipalities should consider adopting an alternative energy ordinance to ensure that the installation and output of an alternate energy source is measureable and acceptable.

TABLE 3 CONTINUED. HEIGHT BONUS OPTIONS AND STANDARDS

BONUS	POINTS	BONUS FEATURE STANDARD
PUBLIC PARKING	2	At least 5% of parking spaces within the development are made available to the public. The public parking shall meet the following additional standards: - Public parking shall be clearly delineated through pavement markings and/or signage - Public parking shall be located near the train station, commercial land uses, or public gathering spaces, where applicable - Directional signage shall be provided along the street to the public parking
COOPERATIVE PARKING	2	At least 25% of parking spaces within the development are made available to other properties within the TOD District, subject to the following additional standards. - Cooperative parking agreements and access easements shall be approved by the municipality - Directional signage shall be provided along the street
TRANSIT AREA IMPROVEMENTS	2	A bus shelter is installed by the applicant to encourage bus ridership, subject to the following additional standards: - Documentation shall be submitted from the appropriate transit authority approving the design and location of the bus shelter - Constructed according to SEPTA Bus Stop Design Guidelines - Includes seating and electronic mass transit schedule boards - Applicant signs a perpetual maintenance agreement with [municipality] demonstrating that the applicant is responsible for the maintenance of the bus shelter and associated amenities
	2	Installation of a dedicated bus pull-off lane at a designated bus stop. When providing a dedicated bus pull-off lane, the following standards shall apply: Documentation shall be submitted from the appropriate transit authority approving the design and location of the bus pull-off lane
OFF-SITE PEDESTRIAN IMPROVEMENTS	1+ (see standards)	In addition to required on-site sidewalks and pedestrian walkways, off-site pedestrian improvements are made to enhance connectivity within the TOD District. The following off-site pedestrian improvement options are each worth one (1) bonus point: - Constructing 100 linear feet of off-site sidewalks and/or pedestrian walkways meeting all of the design standards provided in §1.1. - Providing pedestrian wayfinding signage between the proposed development and other walking destinations within the station area. - Constructing a pedestrian refuge island that improves pedestrian access to the train station.
GATEWAY INSTALLATION	1	A gateway, which brings visual interest to the development, creates a unique identity, and helps to establish landmarks and points of interest within the station area, is installed and maintained by the applicant, subject to the following standards: Examples of gateway treatments include sculptures, monument signage, arches, landscaping, and artistic lighting

NOTES

Design Standards

Some municipalities choose to locate district-specific design standards in their Subdivision and Land Development Ordinance, while land use and dimensional standards are located in the Zoning Ordinance.

This model ordinance includes some common design standards, such as street tree spacing and sidewalk width, that may already be regulated in either the Zoning Ordinance or Subdivision and Land Development Ordinance. When implementing the model ordinance language it is important to review existing codes for similar standards and remove duplicates as necessary.

H. Design Standards

All developments within the TOD District shall comply with the following design standards.

1. **Building Design Standards.** Preliminary architectural elevations shall be prepared by a registered architect. Such elevations shall illustrate the general design, character, and materials for façades of buildings including parking structures visible from public streets, walkways, and other lands available for public use.
 - a. Overall Design. All buildings within a single project shall have a unified or complementary architectural character. Developments shall create focal points with respect to avenues of approach, or other buildings, and relate open space between all existing and proposed buildings.
 - b. Building Façade Articulation. The architectural design of a building shall create visual interest and reduce the apparent scale and mass of large buildings to enhance visual quality and create a human-scaled development.
 - (1) When flat roofs are proposed, a parapet wall or projecting cornice shall be included on the front façade.
 - (2) All building façades visible from a public or private street, parking area, or public gathering space shall be designed to incorporate architectural detail that creates visual interest. In particular, the design of the ground floor façade shall contribute to an active and pedestrian-friendly streetscape.
 - (3) No building shall have a façade along a public or private street, parking area, or public gathering space that is greater than 300 feet long.
 - (4) Any building façade along a public or private street, parking area, or public gathering space that is greater than 100 feet long shall be articulated with façade breaks of a minimum depth of three (3) feet for every 50 feet of building façade length. In lieu of façade breaks, other architectural elements that provide façade articulation may be utilized, including bay or oriel windows, recessed entryways, or other building design features that create variation in the façade depth.
 - (5) Additional Requirements for Façades along Primary Street Frontages.
 - (a) The ground floor of any building along a primary street shall have a minimum transparency of 60%.
 - (b) For corner buildings with multiple frontages, the ground floor primary street transparency requirement shall wrap on to the ground floor of secondary frontages for a minimum distance equal to at least 25% of the length of the building facade along the secondary frontage, as measured from the corner of the primary and secondary frontages.
 - (c) The upper floors of any building along a primary street shall have a minimum transparency of 35%.

- (6) Additional Requirements for Façades along Secondary Street Frontages.
 - (a) The ground floor of any building along a secondary street with non-residential uses on the ground floor shall have a minimum transparency of 50%.
 - (b) The ground floor of any building frontage along a secondary street with residential uses on the ground floor shall incorporate additional architectural elements to provide visual interest and activate the streetscape, in lieu of a minimum transparency requirement. Examples of architectural treatments to comply with this requirement include: front stoops, porches, awnings, balconies, recessed entranceways, courtyards, trellises with plantings, or other similar architectural features.
 - (c) The upper floors of any building along a secondary street shall have a minimum transparency of 30%.
- (7) Smoked, reflective, or black glass in windows is prohibited.
- c. Building Orientation and Entrances.
 - (1) Each building shall be oriented with their front façade facing, and taking direct pedestrian access from, a primary street frontage. For properties without primary street frontage, the building shall be oriented with their front façade facing, and taking direct pedestrian access from, a secondary street frontage.
 - (2) Each façade of a building with frontage along a public or private street, parking area, or public gathering space shall feature at least one clearly-defined and highly-visible pedestrian entrance with a direct sidewalk connection to the abutting street. A building with multiple street frontages may locate a pedestrian entrance on the corner of the building where the two streets intersect to fulfill this requirement.
 - (3) Storefront entrance doors shall be recessed a sufficient distance to allow doors to swing out without conflicting with pedestrian flow on the sidewalk.
- d. Building Materials.
 - (1) All façades of new buildings visible from a public or private street, parking area, or public gathering space shall consist of quality building materials, such as brick, stone, concrete, and glass, to create visual interest and enhance the quality of the development.
 - (2) The following building materials are prohibited: exterior insulation and finishing systems (EIFS); aluminum or vinyl siding or shutters; white, tan, or painted brick; concrete block; T-111 or other similar plywood siding.

NOTES

Façade Articulation Along Secondary Streets



Washington, D.C.

NOTES

2. **Screening of Equipment.**

- a. Rooftop equipment.
 - (1) Rooftop HVAC systems, elevator equipment, or any other mechanical or utilitarian protuberances shall be screened from view from adjacent buildings and from ground level using similar building materials and in a manner that is consistent with the architectural design of the building.
 - (2) The height of such protuberances shall not exceed ten (10) feet above the maximum building height listed in Table 2.
- b. Loading docks shall be incorporated into the overall site design. These areas shall be located and screened so that the visual and acoustic impact of these functions are fully contained and out of view of adjacent properties and public streets.
- c. Refuse collection areas.
 - (1) Refuse collection areas shall be located within the building, wherever feasible.
 - (2) Where indoor refuse collection and storage is not feasible, the refuse collection area shall be located to the rear of the building.
 - (3) Exterior refuse collection areas shall be set back a minimum of 50 feet from all property lines abutting a residential district or use.
 - (4) All exterior refuse collection areas shall be screened from public and private streets, parking areas, and public gathering spaces through a combination of low walls, fencing, or hedges.

3. **General Landscape Design Standards.** A landscape plan for any proposed development within the TOD district shall be prepared by a registered Landscape Architect, and submitted in compliance with all applicable requirements in the [municipality name] Subdivision and Land Development Ordinance, or other applicable ordinance, in addition to the following general landscape design standards.

- a. All areas of the site not devoted to buildings, parking, roadways, pedestrian pathways, and public gathering spaces or plazas shall be landscaped with trees, shrubs, ornamental plants and grasses, or other appropriate groundcover. Use of native plant materials and naturalistic design is to be used when feasible.
- b. Foundation plantings shall be provided between the sidewalk and any nonresidential or multifamily residential building. Where foundation plantings are not feasible, decorative architectural features such as permanent planters or window boxes may be used.
- c. All new and expanded stormwater management controls, drainageways, and facilities shall be planted in a naturalistic manner with native, wa-

ter-tolerant plant materials. Proposed stormwater management facilities shall be richly landscaped to ensure that they serve as an attractive feature of the community and that they are an appropriate frontage element for homes and recreation.

- d. Existing native trees shall be preserved to the greatest extent possible in proposed open spaces. The applicant shall employ tree preservation standards, including tree protection fence and other construction measures, to ensure the preservation of the existing trees.
- e. All landscaping shall be guaranteed as follows and dead plant materials shall be replaced the next planting season.
 - (1) Landscaping within stormwater management facilities shall be guaranteed for three (3) years.
 - (2) Shade trees shall be guaranteed for five (5) years.
 - (3) All other landscaping shall be guaranteed for two (2) years.
- f. An operations and maintenance plan, including information about how invasive plants will be controlled, shall be prepared and submitted to [municipality] for approval.

4. **Buffer Design Standards.** When a buffer is required by §F.5., it shall be subject to the dimensional standards in Table 2 above, and the following additional design standards shall apply:

- a. For all of the buffer options below, a minimum of two (2) shrub species shall be utilized per 30 linear feet of buffer and the use of native species is encouraged.
- b. The following substitutions are permitted to encourage greater diversity:
 - (1) A mixture of shrubs, perennials, and grasses may be substituted where shrubs are required.
 - (2) Two (2) understory trees may be substituted for every one (1) shade tree.
- c. Buffer Option 1: One (1) shade tree and ten (10) shrubs shall be planted for every 30 feet along the property line where a buffer is required.
- d. Buffer Option 2: A fence or wall with a minimum height of five (5) feet shall be provided, and one (1) shade tree and five (5) shrubs shall be planted for every 30 feet along the property line where a buffer is required.
- e. Buffer Option 3: A mixture of six (6) large evergreen and deciduous shrubs shall be planted for every 30 feet along the property line where a buffer is required.

I. **Streetscape Design Standards**

All developments within the TOD District shall include a well-designed and attractive streetscape that enhances pedestrian safety and fosters a sense of place within the station area.

NOTES

Buffer Design Standards

Several buffer planting options are provided to allow the applicant to select the option that best fits the site's unique constraints. For example, "Buffer Option 3" may be most appropriate in situations where a narrower planting strip is being provided.

NOTES

1. **Sidewalks & Verges.**

- a. Location.
 - (1) Sidewalks shall be provided along both sides of all public and private streets within the development.
 - (2) Additional internal pedestrian pathways shall be provided in order to create a completely linked network of convenient pedestrian connections between all building entrances, parking areas, open spaces, train stations, bus stops, and other public amenities within the development.
 - (3) Sidewalks are required to connect the street frontage to all front building entrances, parking areas, plazas, and any other destination that generates pedestrian traffic. Sidewalks shall connect to existing sidewalks on abutting tracts and other nearby pedestrian destination points and transit stops.
- b. Dimensional Requirements.
 - (1) For frontages along primary streets, a sidewalk with an unimpeded paved width of at least eight (8) feet shall be provided.
 - (2) For frontages along primary streets, a four (4) foot wide verge shall be provided between the sidewalk and curblin which may be either landscaped or hardscaped.
 - (3) For frontages along secondary streets where nonresidential uses are located on the ground floor, a sidewalk with an unimpeded paved width of at least eight (8) feet shall be provided. All other frontages along secondary streets shall have an unimpeded paved sidewalk width of at least six (6) feet.
 - (4) For frontages along secondary streets, a landscaped or hardscaped verge is encouraged between the sidewalk and curblin.
- c. All internal pedestrian walkways and crosswalks shall be distinguished from driving surfaces through the use of pavers, bricks, or scored concrete to enhance pedestrian safety and comfort.
- d. Sidewalks shall be constructed of brick, concrete pavers, stone, exposed aggregate concrete, or integral colored concrete and in compliance with the Americans with Disabilities Act (ADA).

2. **Crosswalks.**

- a. Crosswalks shall be clearly delineated at all intersections and marked to the width of the largest contributing sidewalk or internal pedestrian pathway. In no case shall the width of the crosswalk be less than five (5) feet.
- b. Crosswalks and their transition to adjacent sidewalks or trails shall be designed to facilitate access and use by persons that are physically disabled, in compliance with the Americans with Disabilities Act (ADA).

- c. Pedestrian signalization shall be provided at intersections where traffic signals exist.
 - d. Where a crosswalk is located on an arterial or collector street or at a mid-block location, the [governing body] may require one or more of the following measures as described in the Pennsylvania Traffic Calming Handbook based upon the recommendation of the [municipality] engineer.
 - (1) High-visibility or decorative crosswalks;
 - (2) Curb extensions, bulb-outs, or raised medians;
 - (3) Raised speed table crosswalks; or
 - (4) Other pedestrian safety method deemed to be appropriate by the [governing body] as recommended by the [municipality] engineer.
3. **Shade Trees.** Trees shall be planted along both sides of all public and private streets and along driveways and internal pedestrian walkways in accordance with the following regulations:
- a. One (1) shade tree shall be planted for every 30 linear feet of public or private street frontage, driveway length, or internal pedestrian walkway length.
 - b. The spacing between individual shade trees may be adjusted to accommodate utilities, driveways, and other constraints.
 - c. Shade trees shall have a minimum caliper of 2.5" at the time of planting.
 - d. Shade trees planted along a public or private street frontage may be planted as part of a landscaped verge, or planted within a hardscaped verge in a tree well meeting the following standards:
 - (1) All tree wells containing shade trees shall consist of a surface area of not less than 50 square feet.
 - (2) All tree wells containing shade trees shall be a minimum of 30" deep and have adjoining structured soils or manufactured cells that provide for a soil volume capacity of at least 1,000 cubic feet per shade tree.
 - e. Shade tree species shall be selected that are appropriate for their location. The following factors shall be considered when selecting a tree species: maintenance requirements, hardiness, heat tolerance, drought tolerance, salt tolerance, shape and form, and the subsurface growing conditions. The use of native tree species is encouraged.
4. **Street Furniture.** At least two (2) benches, one (1) bicycle rack, one (1) trash receptacle, and one (1) recycling receptacle shall be provided for every 300 feet of public street frontage. The street furniture shall be located adjacent to the building façade, unless on-street parking is present, in which case street furniture may be located along the curb. Such amenities shall be maintained in perpetuity by the property owner.

NOTES

Pennsylvania Traffic Calming Handbook

PennDOT Publication 383 provides design guidelines for these and other potential traffic calming measures such as traffic circles and diagonal diverters. The most recent version of Publication 383 is available here: <https://www.dot.state.pa.us/public/pubsforms/Publications/PUB%20383.pdf>.

Mid-Block Crosswalk



Montclair, New Jersey

NOTES

Bus Stop Design Guidelines

The second edition of the SEPTA Bus Stop Design Guidelines was released in 2019 and is available here: <https://www.dvrpc.org/Reports/18029.pdf>.

5. **Pedestrian-Scaled Lighting.** All proposed developments within the TOD District shall incorporate pedestrian-scaled lighting meeting the following standards along all public and private street frontages and internal pedestrian walkways to help to create a sense of place within the station area:
 - a. The maximum luminaire height for pedestrian-scale lighting fixtures shall be 12 feet above the grade of the adjacent sidewalk or pedestrian walkway.
 - b. Pedestrian-scaled lighting fixtures shall be spaced to provide adequate illumination of sidewalks and pedestrian walkways, but in no case shall they be spaced further than 50 feet apart.
6. **Bus Stop Design Standards.**
 - a. The developer shall coordinate with SEPTA, or any other public transit provider, on providing or improving existing bus stops when a public bus transit route operates or has a stop located on a public or private street frontage directly adjoining a subdivision or land development within the TOD District.
 - b. The developer shall coordinate with SEPTA on the stop design. The appropriate transit stop improvements and shelter shall be provided meeting the most recent SEPTA Bus Stop Design Guidelines. Transit stops shall include, at a minimum, a shelter or enclosure, seating, and schedule information.
 - c. The developer shall sign a perpetual maintenance agreement with the [municipality] demonstrating that the applicant is responsible for the maintenance of the bus shelter and associated amenities.
7. **Outdoor Dining Area Design Standards.**
 - a. Outdoor furniture is limited to tables, chairs, umbrellas, reservation podiums, portable heaters, trash receptacles, and other similar items.
 - b. Planters, posts with ropes, or other enclosures, shall be used as a way of defining the area occupied by the outdoor dining area, provided such enclosures do not exceed four (4) feet in height.
 - c. Where the outdoor dining area abuts a street or parking area, the applicant shall provide a barrier, such as bollards or planters, to protect cafe customers. The barrier shall be attractively designed and landscaped or otherwise incorporated into the design of the outdoor dining area, as approved by the [municipality].
 - d. Refuse facilities shall be provided.
 - e. Outdoor dining areas shall not impede pedestrian traffic flow. An unobstructed pathway of at least five (5) feet in width shall be maintained between the public sidewalk and the building entrance(s).

J. Common Open Space Design Standards

Proposed developments within the TOD District that propose ten (10) or more residential dwelling units, or 10,000 square feet or more of nonresidential building area, shall provide a minimum amount of common open space as specified in Table 4 below:

NOTES

Types of Open Space

Table 4 lists descriptive open space types that may be most appropriate for the types of development anticipated and the scale and physical setting of each station area typology. However, each municipality should modify this section to be consistent with the terminology used for open space elsewhere in their codes and to be consistent with their goals for recreation areas and open spaces within their community.

TABLE 4. COMMON OPEN SPACE REQUIREMENTS BY STATION AREA TYPOLOGY

DIMENSIONAL STANDARDS	STATION AREA TYPOLOGY				
	REGIONAL MIXED-USE CENTER	TOWN CENTER	NEIGHBORHOOD VILLAGE CENTER	SUBURBAN EMPLOYMENT CENTER	SUBURBAN NEIGHBORHOOD
MINIMUM SIZE	1,000 sq. ft., or 5% of the lot area, whichever is greater	400 sq. ft., or 5% of the lot area, whichever is greater	250 sq. ft., or 5% of the lot area, whichever is greater	400 sq. ft., or 5% of the lot area, whichever is greater	500 sq. ft., or 5% of the lot area, whichever is greater
PERMITTED TYPES OF OPEN SPACE ³⁰	- Courtyard or square - Pedestrian plaza - Pocket park - Roof terrace - Dog park	- Courtyard or square - Pedestrian plaza - Pocket park - Roof terrace - Dog park	- Courtyard or square - Pedestrian plaza - Pocket park - Roof terrace - Dog park - Village green - Tot lot	- Courtyard or square - Pedestrian plaza - Pocket park - Roof terrace - Walking paths or multi-user trails - Gazebo - Tot lot	- Courtyard or square - Walking paths or multi-user trails - Pocket park - Community garden - Gazebo - Tot lot

30 See additional standards for each type of open space in §J.1.-5. below.

1. General Common Open Space Standards.

- Up to 25% of the required common open space area can be used for natural features preservation or stormwater management, provided the stormwater management facilities are designed as a vegetated amenity, such as rain gardens.
- Required landscape islands within surface parking lots and required buffer and setback areas shall not be included as part of the required common open space.
- Perpendicular or angled parking spaces shall not abut any required common open space; however, parallel on-street parking spaces may abut any required common open space.
- The required common open space shall be convenient and accessible by sidewalk or internal pedestrian path to all buildings on the site.
- An operations and maintenance plan, ensuring that all landscaping and manmade items are maintained in perpetuity and are replaced if they can no longer be feasibly maintained, shall be prepared for the common open space area and submitted to the municipality for approval.

NOTES

Village Green



Cambridge Reserve, Franconia Township

2. Pedestrian Plaza, Courtyard, Square, or Pocket Park Standards.
 - a. A minimum of 30%, but no more than 70%, of the pedestrian plaza, courtyard, square, or pocket park shall be landscaped with a combination of trees, shrubs, perennials, grasses, and groundcovers to provide year-round visual interest and color. A minimum of one (1) shade tree shall be provided per 250 square feet of pedestrian plaza, courtyard, square, or pocket park, or portion thereof.
 - b. The pedestrian plaza, courtyard, square, or pocket park shall not be used for parking, loading, or vehicular access, except emergency and maintenance vehicular access.
 - c. The pedestrian plaza, courtyard, square, or pocket park shall provide shade by using one or more of the following elements: canopies, trellises, umbrellas, or similar elements.
 - d. The paved surface area shall be composed of high-quality, durable paving materials, such as unit pavers, paving stones, or concrete.
 - e. Pedestrian-scale lighting shall be provided within the public gathering space and along sidewalks or internal pedestrian pathways connecting to the public gathering space.
3. Roof Terrace Standards.
 - a. The roof terrace shall be accessible to building tenants as a recreational amenity.
 - b. A minimum of 50% of the roof terrace area shall be landscaped.
 - c. The landscaped portion of the roof terrace shall be designed to have direct sunlight exposure at noon.
 - d. The landscaped portion of the roof terrace shall be designed to conform to the best available technology standards for green roofs, such as those published by LEED, as approved by the municipal engineer.
4. Village Green Standards.
 - a. Village greens shall be a centrally located within the development.
 - b. Village greens shall be furnished with an amenity to serve the community, such as a gazebo or pavilion.
 - c. The area of the village green shall be defined by the use of landscaping, including shade trees and groups of flowering shrubs, groundcovers, grasses, and perennials. A minimum of one (1) shade tree shall be provided per 250 square feet of village green area, or portion thereof.

5. Public gathering space being proposed as part of an optional building height bonus, as provided for in §E., shall meet the following additional requirements:
 - a. The public gathering space shall be in the form of a pedestrian plaza, courtyard, square, or pocket park meeting all of the standards contained in §J.1. and §J.2. above, as well as the following.
 - b. The public gathering space shall be integral to the development and designed as a focal point for the TOD development.
 - c. The public gathering space shall be centrally located within the TOD development and easily and conveniently accessible from all residential and nonresidential buildings.
 - d. The public gathering space shall be located next to public streets or front facades of buildings, or located between buildings.
 - e. The public gathering space shall be entirely open to the air and no portion of a building, other than a balcony, shall project over the public gathering space.
 - f. The public gathering space shall include a defining focal element, such as a large fountain, sculpture, gazebo, pond, or similar feature.
 - g. No more than 30% of the public gathering space may be paved with plain concrete.
 - h. Trash and recycling containers shall be distributed throughout the public gathering space to discourage littering.
 - i. Two (2) bike parking spaces shall be provided within the public gathering space. For public gathering spaces larger than 1,000 square feet, one (1) bike parking space shall be provided per 500 square feet of public gathering space, or portion thereof.
 - j. Six (6) seating spaces shall be provided within the public gathering space. For public gathering spaces larger than 1,500 square feet, one (1) seating space shall be provided per 250 square feet of public gathering space, or portion thereof.
 - k. The applicant shall have an agreement with the [municipality] for public access to the public gathering space.

NOTES

Public Gathering Space



King of Prussia Town Center, Upper Merion Township

NOTES

Parking Requirements

This section of the model TOD ordinance contains recommended minimum parking ratios based on individual uses. The parking minimums in Table 5 are slightly lower than may be common in other zoning ordinances to reflect an increased use of alternative transportation modes within the TOD.

Additional standards are provided for calculating reduced parking requirements for mixed-use developments, as well as parking reduction options, and a maximum parking requirement. Parking design standards are also contained in this section.

K. Parking Requirements

1. **Minimum Parking Requirements.** Due to the transit-oriented nature of development within the TOD District, a reduced demand for parking is anticipated. The minimum parking requirements based on land use are shown in Table 5 below:

TABLE 5: MINIMUM PARKING REQUIREMENTS

USE	MINIMUM PARKING REQUIREMENT (# SPACES)
RESIDENTIAL USES	
MULTIFAMILY	1/STUDIO OR 1 BEDROOM UNIT 1.5/2+ BEDROOM UNIT
SINGLE-FAMILY DETACHED	2/UNIT
ALL OTHER TYPES OF RESIDENTIAL	1.5/UNIT
NONRESIDENTIAL USES	
RETAIL SHOPS OR ARTISANAL MANUFACTURING	1/200 SF GFA ON THE FIRST FLOOR + 1/400 SF GFA ON UPPER FLOORS
RESTAURANTS AND OTHER FOOD OR BEVERAGE ESTABLISHMENTS	1/200 SF GFA
PERSONAL SERVICE BUSINESSES, FINANCIAL INSTITUTIONS, OFFICE, FLEX/LIGHT INDUSTRIAL, OR GOVERNMENT ADMINISTRATIVE USES	1/300 SF GFA
HOTELS, BOUTIQUE HOTELS, OR BED & BREAKFASTS	1/GUEST ROOM + 1/800 SF OF PUBLIC MEETING SPACE
ENTERTAINMENT, THEATERS, GALLERIES, MUSEUMS, ART OR PHOTOGRAPHY STUDIO	THEATER: 1/5 SEATS ALL OTHER: 1/500 SF GFA
GOVERNMENT ADMINISTRATIVE USES (POST OFFICES, COMMUNITY CENTERS, LIBRARIES)	1/250 SF GFA
SCHOOL OR DAY CARE CENTER	2/CLASSROOM
STUDIOS FOR DANCE, MUSIC, OR FITNESS	1/4 STUDENTS BASED ON THE MAXIMUM OCCUPANCY

SF = square feet

GFA = gross floor area

Shared Parking Calculation

Different uses have different times of peak parking demand. For example, office developments need most of their parking during the day, Monday through Friday, while movie theater uses demand more parking on evenings and weekends.

By allowing multiple use with different peak periods of parking demand to share parking, the overall parking that needs to be built to serve a development can be reduced. This allows for a more efficient use and design of parking resources within the development.

2. **Shared Parking.** The off-street parking required for two or more buildings or uses, whether on the same or adjacent lots, may be provided in combined parking facilities, provided the following standards are met:
 - a. Some portion of the shared parking area must lie within 500 feet of an entrance, regularly used by patrons or residents, into the buildings served by the shared parking facilities. Such entrance(s) shall be connected to the shared parking area by a sidewalk or internal pedestrian pathway, and/or marked crosswalks, with a minimum width of four (4) feet.
 - b. The shared parking area(s) shall either be under common ownership or controlled by an access and parking easement agreement approved by [municipality] and recorded for each property affected by the shared parking.

- c. The minimum number of parking spaces required shall be calculated according to the following formula and shall be reevaluated any time a change in use occurs:
- (1) Multiply the minimum parking requirement for each individual use (as set forth in Table 5 above for each use) by the appropriate percentage (as set forth in Table 6 below) for each of the six designated time periods and then add the resulting sums from each vertical column. The column total having the highest total value is the minimum shared parking space requirement for that combination of land uses.
 - (2) Calculate the minimum amount of parking required for each land use as if it were a separate use.
 - (3) To determine peak parking requirements, multiply the minimum parking required for each proposed land use by the corresponding percentage in the table below for each of the six time periods.
 - (4) Calculate the column total for each of the six time periods.
 - (5) The column (time period) with the highest value shall be the minimum shared parking requirement.

NOTES

TABLE 6. SHARED PARKING CALCULATION TABLE

	MONDAY TO FRIDAY			SATURDAY & SUNDAY		
	8AM-6PM	6PM-MIDNIGHT	MIDNIGHT-8AM	8AM-6PM	6PM-MIDNIGHT	MIDNIGHT-8AM
RESIDENTIAL	60%	100%	100%	80%	100%	100%
OFFICE	100%	10%	5%	10%	5%	5%
COMMERCIAL/RETAIL	70%	90%	5%	100%	70%	5%
HOTEL/MOTEL	75%	100%	100%	75%	100%	100%
RESTAURANT	60%	100%	10%	60%	100%	20%
ENTERTAINMENT/ RECREATION	40%	100%	10%	80%	100%	50%
MOVIE THEATRE	40%	80%	10%	80%	100%	10%
DAYCARE FACILITIES	100%	10%	5%	20%	5%	10%
INSTITUTIONAL (NON-RELIGIOUS)	100%	40%	5%	10%	10%	5%
INSTITUTIONAL (RELIGIOUS)	20%	40%	5%	100%	50%	5%

NOTES

Multiple Driveways

Alternatively, municipalities may wish to consider permitting two, two-way driveways on lots of a certain size, provided a larger minimum spacing (such as 100 feet) is provided between the two driveways.

3. **Pick-up/Drop-off Zones.** All developments proposing 20 or more residential dwelling units and/or 40,000 square feet or more of nonresidential building area, shall provide a pick-up/drop-off area as follows:
 - a. For every 20 residential dwelling units or 40,000 square feet of nonresidential building area, one (1) pick-up/drop-off space equal to the size of one parking space in size shall be provided along the street frontage of the lot.
 - b. Designating on-street parking spaces for required pick-up/drop-off zones is encouraged.
4. **Additional Parking Reduction Options.**
 - a. The required number of parking spaces may be reduced by the amount of on-street parking spaces that are available along the frontage of the property.
 - b. If the use is located within a 500-foot walking distance of a public parking facility, the required on-site parking for nonresidential uses may be reduced by up to 10%.
5. **Maximum parking.** The maximum amount of parking permitted to be constructed on a site shall be equal to 120% of the minimum required parking, unless cooperative parking agreements are in place with adjacent properties or a portion of the parking on-site is reserved for public parking.
6. **Parking Design Standards.**
 - a. Driveways shall be limited as follows:
 - (1) For lots of one (1) acre or less, a maximum of one (1) driveway, with a maximum width of two (2) lanes or 24 feet, is permitted on each street frontage of the lot.
 - (2) For lots of larger than one (1) acre, a maximum of two (2) driveways, with a maximum width of one (1) lane or 12 feet each, is permitted on each street frontage of the lot, provided the driveways are spaced a minimum of 50 feet apart.
 - b. Auto-oriented spaces, such as parking lots, driveways, and loading/unloading zones, are not permitted to be located between the building façade and any street frontage, except as noted below:
 - (1) For hotel uses, the primary pick-up and drop-off area for hotel guests.
 - (2) For transit facility uses, passenger pick-up and drop-off areas.
 - (3) Dedicated bus pull-off lanes.
 - c. All proposed parking areas within the TOD District, whether surface parking lots or parking structures, shall provide amenities to encourage bicycling and electric vehicle use:

- (1) One (1) covered bicycle parking space is provided for every ten (10) vehicular parking spaces within the parking area.
 - (2) Two (2) electric vehicle charging stations are provided for every 50 vehicular parking spaces within the parking area.
- d. Surface Parking Lot Design Standards. Surface parking lots within the TOD District shall meet the following requirements:
- (1) All surface parking lots shall be set back a minimum of 25 feet from the curbline, inclusive of any required buffer or perimeter landscaping.
 - (2) All surface parking lots shall be located to the rear or side of the building.
 - (3) All surface parking lots shall be designed so that driveway access is off of a secondary street or alley, where possible.
 - (4) Surface parking lots visible from a public or private street shall be screened continuously by a four (4) foot high wall, fence, or hedgerow, or combination thereof. Screening shall also include street trees.
 - (5) A sidewalk or internal pedestrian path with a minimum width of four (4) feet shall be provided to connect all areas of the surface parking lot to convenient pedestrian-oriented entrances to the building(s) on the site.
 - (6) Wherever possible, surface parking lots on adjacent properties shall be designed to allow for shared driveway access and internal circulation between the surface parking lots so as to reduce the number of curb cuts along the street.
 - (7) On lots utilizing a cooperative parking agreement, parking areas may abut or cross lot lines.
 - (8) Landscaping.
 - (a) Parking Lot Islands.
 - (i) A parking lot island shall be provided for every ten (10) parking spaces.
 - (i) All rows of parking must be terminated by a parking lot island.
 - (i) Parking lot islands shall have a minimum surface area of 162 square feet with a minimum width of nine (9) feet.
 - (ii) Parking lot islands shall have soils improved to a minimum depth of 30 inches.
 - (iii) In addition to one (1) shade tree, each parking lot island shall be planted with groups of flowering shrubs, groundcovers, grasses, and perennials to cover 75% of the surface area.
 - (iv) The perimeter of the planting island shall be curbed but designed to accept stormwater runoff, as a bioretention area, when site conditions allow.

NOTES

Green Parking Lot Design

The Montgomery County Planning Commission publication "Green Sustainable Parking Guidebook" provides design guidance and sample ordinance language to help communities create "greener" parking lots.

For more information, visit: https://www.montcopa.org/DocumentCenter/View/9735/Green-Sustainable-Parking-Guide-2_10_2016



Montgomery County Community College,
Pottstown Borough

NOTES

Parking Structure Design

This parking structure was designed to look like a building facade with window openings and a store-front treatment along the ground floor.



City of Lancaster

Transportation Demand Management

Transportation demand management (TDM) refers to a set of tools to encourage use of alternative modes of transportation that reduce vehicular trips and related traffic congestion, which have been shown to have a negative impact on quality of life.

The TOD model ordinance as-a-whole was written to encourage transit ridership, as well as bicycling and walking; however, requiring certain larger developments to also complete and implement a TDM plan will help the developer identify additional infrastructure improvements and programmatic tools to make alternative transportation choices easier.

- (b) When site conditions allow, the perimeter of the parking lot shall be designed to accept stormwater runoff, as a bioretention area. Curbs separating landscape areas from parking shall have gaps to allow surface water to flow to the bioretention area. Soils shall provide adequate infiltration rates.
- (c) Pervious pavement is encouraged within low-traffic portions of surface parking lots.
- e. Parking Structure Design Standards. Parking structures within the TOD District shall meet the following requirements:
 - (1) No parking structure shall have a façade along a public or private street, parking area, or public gathering space that is greater than 300 feet long.
 - (2) Any parking structure with frontage on a primary street(s) shall have active streetfront commercial uses along the ground floor of the primary street frontage(s).
 - (3) All parking structures shall be designed so that driveway access is off of a secondary street or alley, where possible.
 - (4) Utilitarian appearances of parking structures, such as sloping levels and blank walls, should be avoided. The ground floor of any parking structure visible from a public or private street, parking area, or public gathering space shall have design treatments such as colonnades, arcades, awnings, landscaping, street furniture, and other public amenities to create the appearance of an occupied building.
 - (5) Vehicles shall be generally visually screened from adjacent buildings and streets. The screening shall be made up of landscaping or architectural elements, or a combination thereof. Architectural screening elements shall be designed to be consistent with the architectural design and building materials of the building(s) it serves, or adjacent buildings if the parking structure is the principal use on the lot.

L. Transportation Demand Management

A transportation demand management (TDM) plan shall be submitted and approved by the [municipality] as part of any proposed development within the TOD district consisting of 20 or more residential dwelling units and/or 20,000 square feet or more of nonresidential building area. The TDM plan shall demonstrate how the developer proposes to reduce single-occupant vehicular trips and encourage alternative modes of transportation. Examples of TDM measures discussed in the TDM plan could include, but are not limited to:

- 1. Pre-tax deduction of transit and vanpool fares;
- 2. Shower and locker facilities for bicyclists and walkers;
- 3. Covered bicycle parking;

4. Carpool and vanpool preferential parking;
5. On-site car-sharing vehicle parking;
6. Commuter information center (e.g., bulletin board, website, brochure table);
7. Employee Transportation Coordinator;
8. Flexible or alternative work hours;
9. Wayfinding signage directing pedestrians and bicyclists to transit facilities within the station area;
10. TDM education programs directed at the public, residents, and employees.

NOTES

NOTES

APPENDICES

Appendix A: King of Prussia Rail Implementation Study

Appendix B: Stations by Station Area Typology

Appendix C: Transit-Oriented Development Resources



Appendix A: King of Prussia Rail Implementation Study

INTRODUCTION

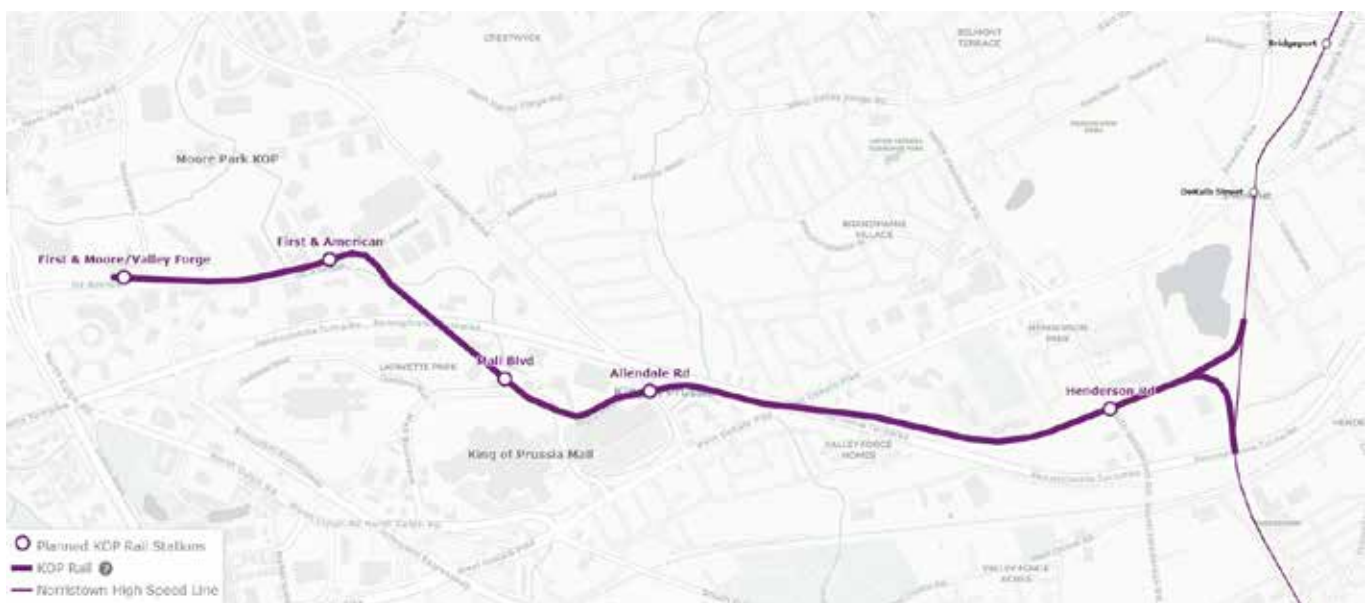
Most of SEPTA's regional rail lines were installed by predecessor railroad companies over one hundred years ago, and for numerous reasons over many decades, train service was curtailed along multiple lines, with former rail stations and train tracks in towns like Pottstown, Royersford, Souderton, and Huntingdon Valley no longer used for passenger service.

Although several transit service restoration and expansion projects have been studied in recent decades, the tremendous employment growth in Upper Merion, especially around the King of Prussia Mall complex, has led the region to focus on a new spur of the Norristown High Speed Line into Upper Merion

Township as a way to counteract the congestion along Interstate 76 between King of Prussia and Philadelphia.

The proposed King of Prussia Rail extension project, which is a four-mile spur of SEPTA's Norristown High Speed Line, is currently in the preliminary design phase. Five station locations have been proposed at Henderson Road, the King of Prussia Mall, and along First Avenue in the "Moore Park" mixed-use district in the western part of the township (see Figure 1 below). This project is designed to open up access for the employment centers around the Mall and Moore Park, in addition to providing residents throughout Upper Merion improved transit access to destinations such as Norristown and Philadelphia.

FIGURE 1: PROPOSED KOP RAIL ROUTE AND STATION LOCATIONS



Source: SEPTA

The creation of new rail stations and expanded rail transit access creates an important opportunity to consider ordinance amendments that encourage transit-oriented development around new stations. This appendix will briefly examine the proposed station locations and provide recommended station area typologies based on the concepts summarized in this document (see Section 2) as well as renderings of potential TOD projects at two of the proposed stations as a way to highlight the design best practices (see Section 3) and ordinance criteria (see Section 4) also outlined in this document.

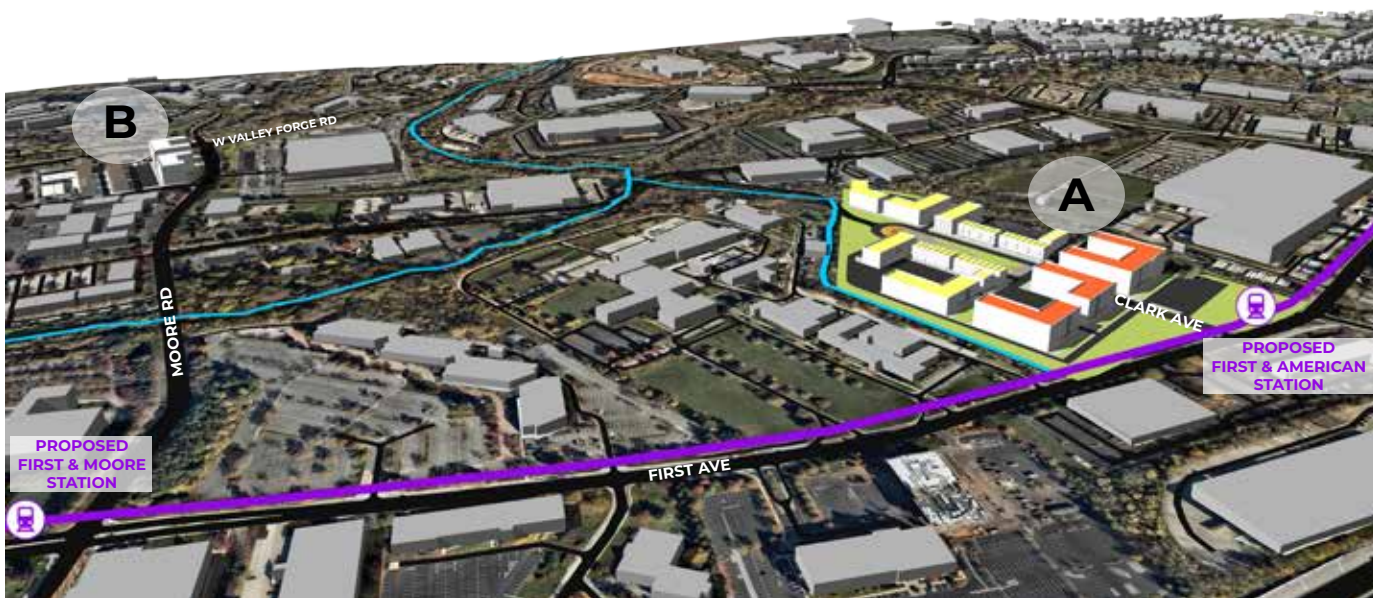
STATION AREA TYPOLOGIES

Based on the current development patterns in Upper Merion Township and the potential transformative effects of the proposed King of Prussia Rail extension project, considering a **Regional Mixed Use Center** station area typology for most of the new stations would allow the township to focus growth in these newly transit-accessible areas. Four of the proposed station locations: (1) Allendale Road and (2) Mall Boulevard with access to the King of Prussia Mall, and (3) First & American and (4) First & Moore/Valley Forge with access to the Moore Park business

park and Valley Forge National Historical Park, can all support the **Regional Mixed Use Center** typology, as the infrastructure and levels of development are already in place to allow for expansions of transit-oriented uses.

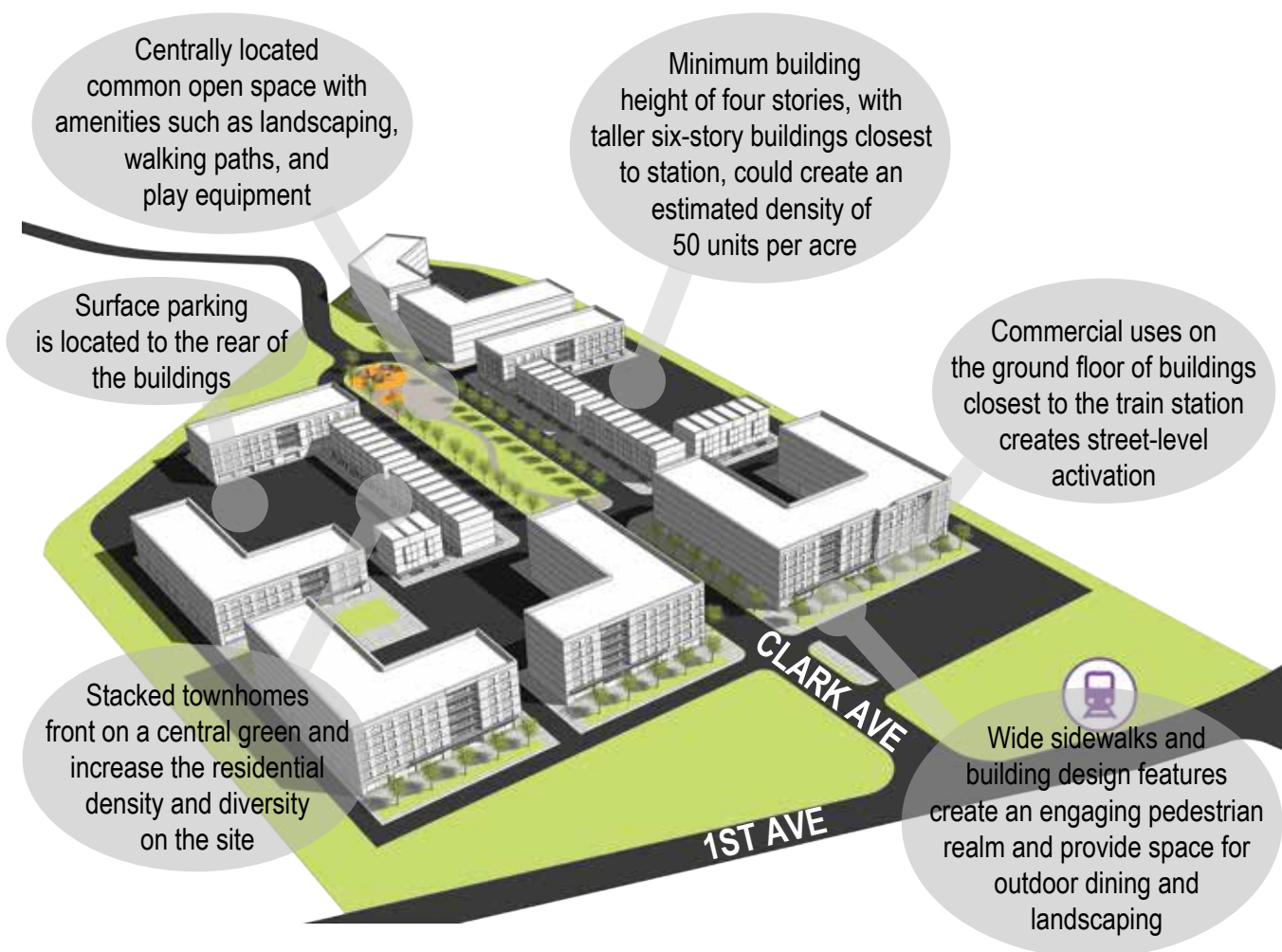
The exception to this is the first station on the spur line at Henderson Road. While increased development is possible with other infrastructure improvements proposed for the area, including the Chester Valley Trail and a potential Pennsylvania Turnpike interchange, the area would likely fit better into the **Suburban Employment Center** station area typology, which would still permit an increase in the development choices and density over what is present now.

FIGURE 2: TOD IMPLEMENTATION STUDY LOCATIONS



TOD Implementation Studies

As part of the Montgomery County Planning Commission's Moore Park Master Plan efforts, areas around the First & American and First & Moore proposed station locations were examined to illustrate how TOD could be realized through newly built developments. See Figure 2 on the previous page for the location of the two transit-oriented development implementation studies relative to the proposed KOP Rail station locations.

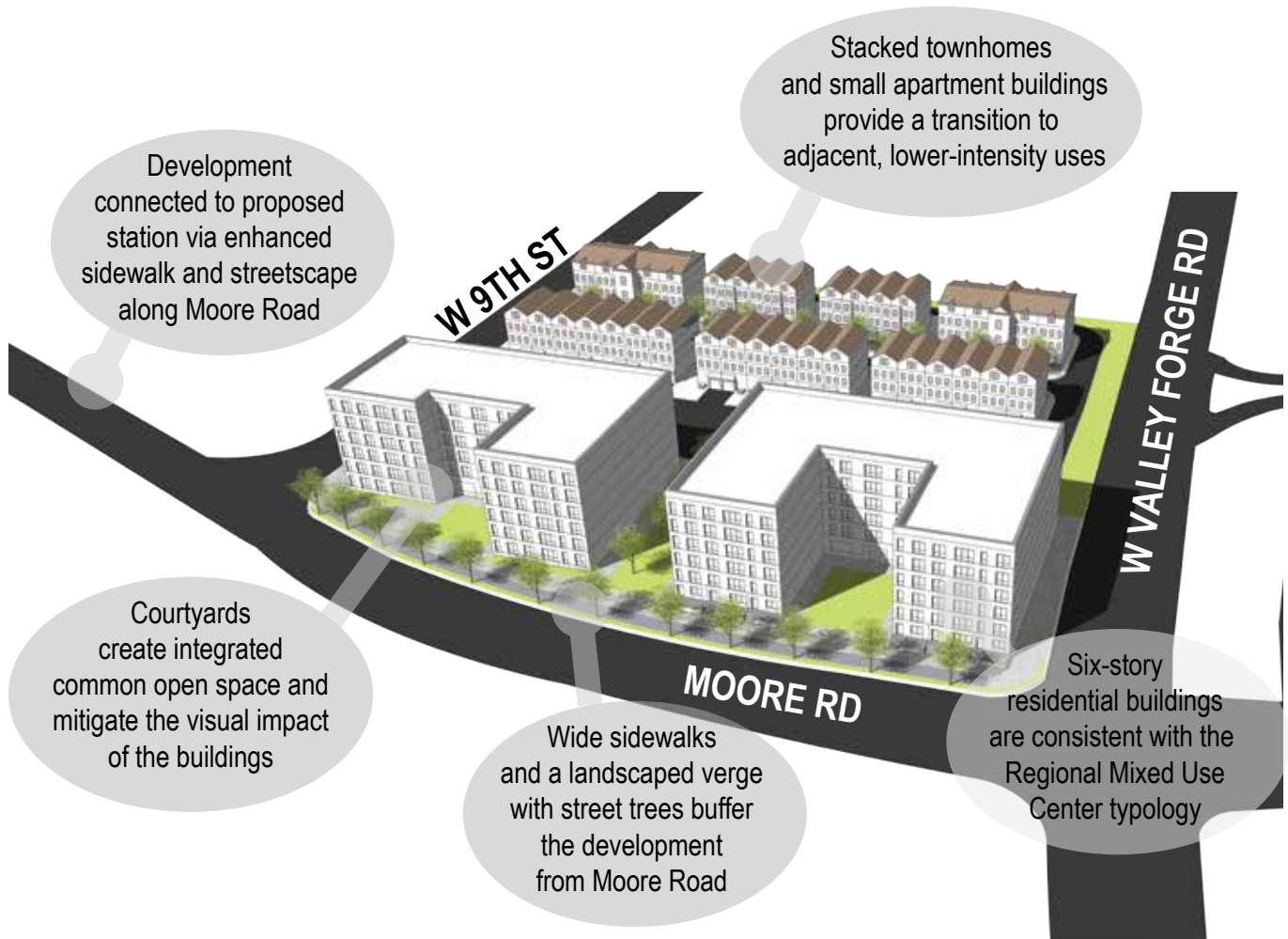


A - Conceptual TOD on Clark Avenue

The Clark Avenue area of Moore Park could be redeveloped as a walkable, mixed-use development oriented towards the proposed First & American KOP Rail station.

B - Conceptual TOD on Moore Road

Other residential nodes could be installed along Moore Road, with enhanced sidewalks and streetscape design to provide bicycle and pedestrian connections to the proposed First & Moore KOP Rail station.



Appendix B: Stations by Station Area Typology

TABLE 1: REGIONAL RAIL AND NHSL STATIONS WITHIN MONTGOMERY COUNTY

TRANSIT MODE	STATION	MUNICIPALITY	STATION AREA TYPOLOGY
RR	CONSHOHOCKEN	CONSHOHOCKEN BOROUGH	REGIONAL MIXED USE CENTER
NHSL	NORRISTOWN T.C.	MUNICIPALITY OF NORRISTOWN	REGIONAL MIXED USE CENTER
RR	NORRISTOWN T.C.	MUNICIPALITY OF NORRISTOWN	REGIONAL MIXED USE CENTER
RR	AMBLER	AMBLER BOROUGH	TOWN CENTER
RR	ARDMORE	LOWER MERION TOWNSHIP	TOWN CENTER
NHSL	BRIDGEPORT	BRIDGEPORT BOROUGH	TOWN CENTER
RR	BRYN MAWR	LOWER MERION TOWNSHIP	TOWN CENTER
RR	HATBORO	HATBORO BOROUGH	TOWN CENTER
RR	LANSDALE	LANSDALE BOROUGH	TOWN CENTER
RR	NARBERTH	LOWER MERION TOWNSHIP	TOWN CENTER
RR	BALA	LOWER MERION TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	FORT WASHINGTON	WHITEMARSH TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
NHSL	HUGHES PARK	UPPER MERION TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	LINK BELT	HATFIELD TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	MIQUON	WHITEMARSH TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	NINTH STREET	LANSDALE BOROUGH	SUBURBAN EMPLOYMENT CENTER
RR	NOBLE	ABINGTON TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	PENNBROOK	LANSDALE BOROUGH	SUBURBAN EMPLOYMENT CENTER
RR	PHILMONT	LOWER MORELAND TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	SPRING MILL	WHITEMARSH TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	WILLOW GROVE	UPPER MORELAND TOWNSHIP	SUBURBAN EMPLOYMENT CENTER
RR	CYNWYD	LOWER MERION TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER
NHSL	DEKALB STREET	BRIDGEPORT BOROUGH	NEIGHBORHOOD VILLAGE CENTER
RR	ELKINS PARK	CHELTENHAM TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER
RR	ELM STREET	MUNICIPALITY OF NORRISTOWN	NEIGHBORHOOD VILLAGE CENTER
RR	GLENSIDE	ABINGTON TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER
RR	HAVERFORD	LOWER MERION TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER
RR	JENKINTOWN-WYNCOTE	JENKINTOWN BOROUGH	NEIGHBORHOOD VILLAGE CENTER
RR	MAIN STREET	MUNICIPALITY OF NORRISTOWN	NEIGHBORHOOD VILLAGE CENTER
RR	NORTH WALES	NORTH WALES BOROUGH	NEIGHBORHOOD VILLAGE CENTER
RR	ORELAND	SPRINGFIELD TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER
RR	ROSLYN	ABINGTON TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER
RR	WYNNEWOOD	LOWER MERION TOWNSHIP	NEIGHBORHOOD VILLAGE CENTER

CONTINUED TABLE 1: REGIONAL RAIL AND NHSL STATIONS WITHIN MONTGOMERY COUNTY

TRANSIT MODE	STATION	MUNICIPALITY	STATION AREA TYPOLOGY
RR	ARDSLEY	ABINGTON TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	BETHAYRES	LOWER MORELAND TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	COLMAR	HATFIELD TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	CRESTMONT	ABINGTON TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	FORTUNA	HATFIELD TOWNSHIP	SUBURBAN NEIGHBORHOOD
NHSL	GULPH MILLS	UPPER MERION TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	GWYNEDD VALLEY	LOWER GWYNEDD TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	LAWNDALE	CHELTENHAM TOWNSHIP	SUBURBAN NEIGHBORHOOD
NHSL	MATSONFORD	LOWER MERION TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	MEADOWBROOK	ABINGTON TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	MELROSE PARK	CHELTENHAM TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	MERION	LOWER MERION TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	NORTH HILLS	SPRINGFIELD TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	PENLLYN	LOWER GWYNEDD TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	ROSEMONT	LOWER MERION TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	RYDAL	ABINGTON TOWNSHIP	SUBURBAN NEIGHBORHOOD

TABLE 2: REGIONAL RAIL AND NHSL STATIONS WITHIN 1/2-MILE OF MONTGOMERY COUNTY

TRANSIT MODE	STATION	MUNICIPALITY	STATION AREA TYPOLOGY
NHSL	BRYN MAWR	RADNOR TOWNSHIP	TOWN CENTER
RR	FOX CHASE	CITY OF PHILADELPHIA	TOWN CENTER
NHSL	ROBERTS ROAD	HAVERFORD TOWNSHIP	TOWN CENTER
RR	WISSAHICKON	CITY OF PHILADELPHIA	SUBURBAN EMPLOYMENT CENTER
RR	CHELTENHAM	CITY OF PHILADELPHIA	NEIGHBORHOOD VILLAGE CENTER
RR	RYERS	CITY OF PHILADELPHIA	NEIGHBORHOOD VILLAGE CENTER
NHSL	BEECHWOOD-BROOKLINE	HAVERFORD TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	CHESTNUT HILL EAST	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
NHSL	COUNTY LINE	RADNOR TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	FOREST HILLS	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
NHSL	GARRETT HILL	RADNOR TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	GRAVERS	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
RR	IVY RIDGE	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
RR	MANAYUNK	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
RR	OVERBROOK	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
NHSL	PENFIELD	HAVERFORD TOWNSHIP	SUBURBAN NEIGHBORHOOD
NHSL	STADIUM (ITHAN AVE)	RADNOR TOWNSHIP	SUBURBAN NEIGHBORHOOD
NHSL	TOWNSHIP LINE ROAD	HAVERFORD TOWNSHIP	SUBURBAN NEIGHBORHOOD
RR	WYNDMOOR	CITY OF PHILADELPHIA	SUBURBAN NEIGHBORHOOD
NHSL	WYNNEWOOD ROAD	HAVERFORD TOWNSHIP	SUBURBAN NEIGHBORHOOD

Transit Mode:
RR: Regional Rail
NHSL: Norristown High Speed Line

Appendix C: Transit-Oriented Development Resources

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