MARCH 2025

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Strategic Planning for SEPTA Surface Transit Corridors

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Executive Summary

Transit-oriented development (TOD) has traditionally been focused on increasing density, walkability, and mixed-use development near rail transit stations. However, 63 percent of Southeastern Pennsylvania Transportation Authority (SEPTA) customers travel by bus, trackless trolley, and trolley, not rail. These surface transit modes often have more frequent headways than those on SEPTA Regional Rail. There are 72 corridors in the SEPTA service area with existing or planned high-frequency surface transit.[1] Transit-supportive principles have historically been applied along these corridors, and provide the foundation to support the development of transit oriented communities (TOCs), where transit supports the vitality, accessibility, and sustainability of the surrounding area. SEPTA's TOC program provides a larger umbrella than a traditional transit-oriented development (TOD) program, with a people-first approach that includes smart growth advocacy, builder coordination, station area and transit corridor planning, multi-modal access, and station design, in addition to property development.

The purpose of this document is to provide land use, site planning, and streetscape design strategies that are easy for SEPTA and planning partners to reference when discussing changes to comprehensive plans, updates to zoning codes, and proposals for specific development projects. SEPTA and planning partners can use this toolkit to provide transit-supportive feedback to zoning boards of adjustment, developers, neighborhood associations, and planning commissions. In addition, SEPTA staff may reference this document as they monitor development proposals along key corridors, coordinate capital improvements with anticipated development activity, and align the development of its own property with TOC best practices.

This document supports many of SEPTA's ongoing initiatives: SEPTA Forward, Bus Revolution,* Trolley Modernization, Transit Oriented Communities (TOC), SEP-TAINABLE, and the Micromobility Playbook. The transit-supportive strategies suggested within are broadly applicable planning practices. As such, they can also support future initiatives as SEPTA continues to work toward the vision of a "lifestyle transit network," one in which frequent, easy-to-use, and integrated service helps customers reach a variety of destinations without a car.

Chapter 1 introduces the expected benefits of TOCs, high-frequency surface transit corridors in SEPTA's service area, and maps where TOCs may be most valuable. Chapter 2's toolkit lists transit-supportive strategies that can be applied on high-frequency surface transit corridors to support advancement towards goals that SEPTA, counties, and municipalities served by SEPTA have identified when implementing TOCs. Chapter 3 takes a closer look at two corridors currently served by high-frequency surface transit. In these examples, transit supports dense development patterns.

Identifying high frequency surface transit corridors with low density land use patterns can help SEPTA and its planning partners direct policy changes and/or investment towards the areas with greatest transit accessibility. Planned increases in transit frequency on these and other corridors under SEPTA's redesigned bus network (Bus Revolution[2]) provide the opportunity to consider additional transit-supportive land uses and multimodal connections that could be implemented.

**Note: SEPTA's Board approved the New Bus Network, as proposed in Bus Revolution, in May 2024. SEPTA is currently working with partners to identify a long-term funding solution that would allow for the full implementation of the redesigned bus network.*

Using SEPTA's redesigned bus network, the Delaware Valley Regional Planning Commission (DVRPC) defined high-frequency corridors as roadways at least one mile long that meet the following criteria:

- roadways in the City of Philadelphia with planned bus or trackless trolley frequency of six vehicles per hour or more
- roadways outside of the City of Philadelphia with planned bus frequency of four vehicles per hour or more
- roadways with trolley routes or that are parallel and adjacent to dedicated trolley rights-of-way

SEPTA and DVRPC worked with a steering committee representing municipalities and counties in SEPTA's service area to determine four interrelated goals on high-frequency transit corridors. When the goals below are applied along corridors with high-frequency surface transit, they have the potential to increase ridership and improve operations for millions of passengers.

- Goal 1: Increase Corridor Density and Vitality
- Goal 3: Reduce Vehicular Congestion (to Improve Transit Operations) and Pollution
- Goal 4: Increase Transit Ridership

Municipalities can require, encourage, or directly implement actions to create a more transit-supportive environment in concordance with the above goals. Strategies are detailed in Chapter 2 and include the following:

- zoning incentives such as density bonuses for providing transit, bicycle, and pedestrian infrastructure
- prohibiting infrastructure or land uses that impede access to surface transit and other non-single-occupancy vehicles
- requiring studies or analyses to understand impacts of development on transit and ensure that all road users needs will be met
- redesigning streets to improve traffic safety, particularly for people walking, biking, and rolling
- implementing specific and special overlays and districts
- creating TOC-supportive design and building guidelines

Chapter 1: Introduction and Background

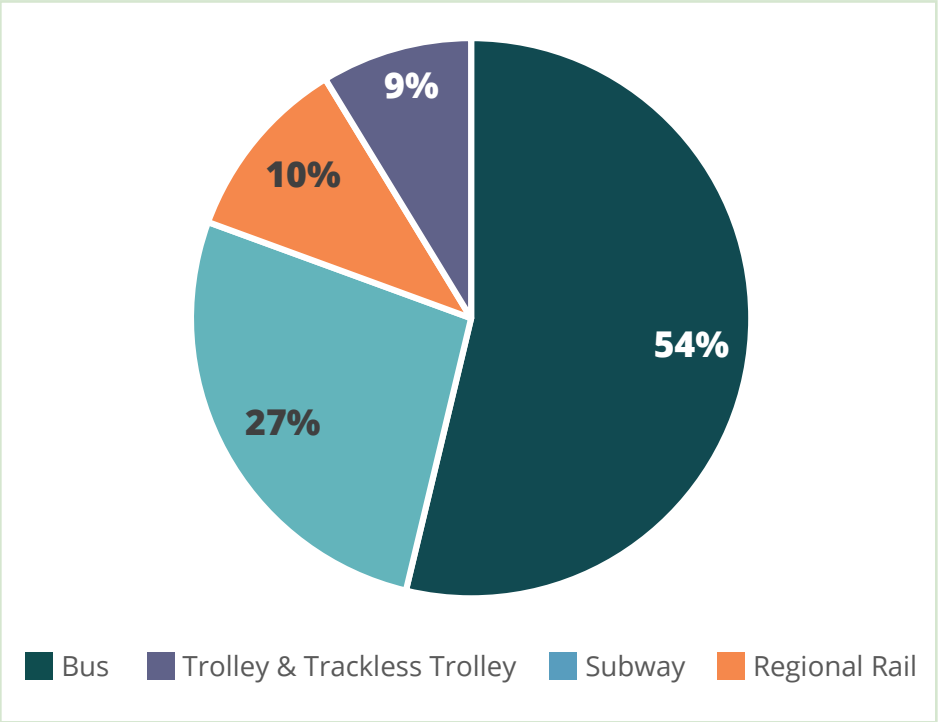
Project Purpose and Potential Impact

This document provides a toolkit of strategies that SEPTA and planning partners can reference when discussing transit-supportive changes to local plans, zoning codes, and property development. The strategies focus on high-frequency surface transit corridors, as 63 percent of Southeastern Pennsylvania Transportation Authority (SEPTA) customers travel by bus, trackless trolley, and trolley (Figure 1). These surface transit modes often have more frequent headways than those on SEPTA Regional Rail.

There are 72 corridors in the SEPTA service area with existing or planned high-frequency surface transit.[3] For purposes of this report, high frequency surface transit refers to roadways in Philadelphia with planned bus or trackless trolley frequency of six vehicles per hour or more; roadways outside of the city with planned bus frequency of four vehicles per hour or more; and roadways with trolley routes or that are parallel and adjacent to dedicated trolley rights-of-way, as detailed on page 7. Total surface transit ridership on high-frequency corridors includes a daily average of at least 176,000 customers as of spring 2024, measured by the number of individuals boarding at stops on these corridors.[4] Frequent service connects riders to homes, jobs, schools, doctor appointments, services, retail, and recreational activities.

The combination of high-frequency service and land use diversity along these corridors makes them excellent targets for reductions in car ownership and use. Most already connect residential areas, commercial centers, and employment opportunities. Future transit-supportive changes to land use, site planning, and streetscape design have the potential to increase density, prioritize multimodal access, reduce congestion (for improved transit operations), increase transit ridership, and support economic development on these 72 high-frequency surface transit corridors.

Figure 1: SEPTA Ridership Share by Mode



Source: SEPTA Open Data Portal (April 2024).

If implemented, the strategies identified in this report would form the backbone of SEPTA's Transit Oriented Communities (TOCs) program and support the larger vision of becoming a "lifestyle transit network," one in which frequent, easy-to-use, and integrated service helps customers reach a variety of destinations without a car.[5] SEPTA's TOC program provides a larger umbrella than a traditional transit-oriented development (TOD) program. TOD programs have typically focused on a single station, whereas TOC applies the same principles to a corridor (which itself is a series of transit stops spaced closely together).

Transit Oriented Communities (TOC) Goals for SEPTA's Service Area

SEPTA is not alone in supporting the expansion of TOCs in its service area. Several counties and municipalities in the Philadelphia region have taken steps to promote transit-supportive changes, particularly through zoning code updates that are designed to shift the built environment away from auto-oriented land use. Both SEPTA and the municipalities it serves have identified interrelated goals to guide TOD development and promote TOCs:

- Goal 1: Increase corridor density and vitality
- Goal 3: Reduce vehicular congestion (to improve transit operations) and pollution
- Goal 4: Increase transit ridership

The four goals are color-coded and referenced throughout this document. The toolkit in Chapter 2 identifies appropriate land use, site planning, and streetscape design strategies that municipalities, developers, and other stakeholders can use to achieve these goals. Each strategy may support multiple TOC goals. The toolkit therefore cross-references strategies, listing them under each goal they serve. In addition, this document was guided by the ongoing work SEPTA, DVRPC, and the entire region are doing to advance transit-supportive changes at stations and stops to increase the use of transit and multimodal travel. The initiatives listed in this section align with the goals and strategies throughout the document. In turn, the goals and strategies are designed to support SEPTA's ongoing TOC efforts.

SEPTA FORWARD

SEPTA Forward is the agency's strategic plan and the framework to transform the organization and services to meet the changing needs of riders. SEPTA Forward established major initiatives that build towards the vision of one unified lifestyle transit network. See Figure 2 for details. The solutions are varied. To grow ridership and build a more equitable future, riders must be able to use services interchangeably, for any sort of trip, at any time. SEPTA is taking action to bring this vision to reality through the programs outlined in the following sections. The goals and strategies developed for this report are aligned with the SEPTA Forward initiatives. Find more information about SEPTA Forward in SEPTA's Strategic Plan.

BUS REVOLUTION

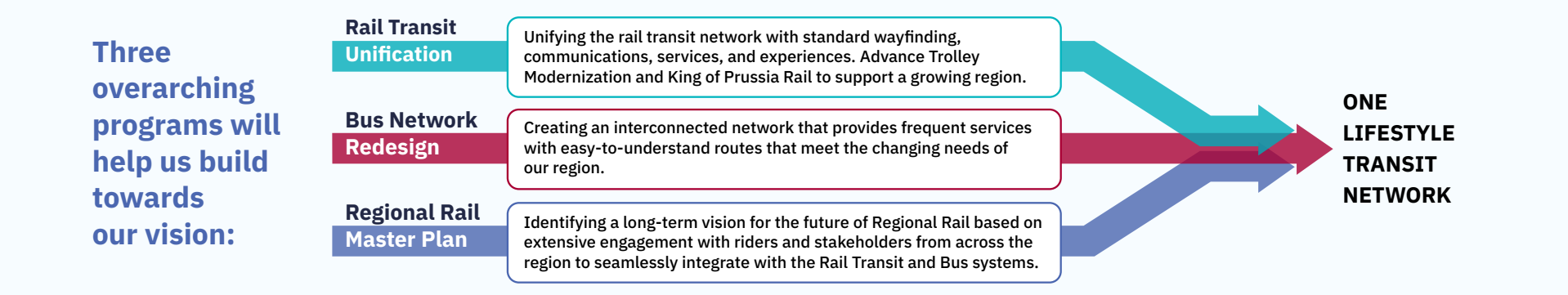
Bus Revolution is SEPTA's first comprehensive redesign of its entire bus network. A key initiative of SEPTA Forward, Bus Revolution will deliver a more reliable, frequent, and accessible bus network. There are three goals: put the rider first, increase access to opportunity, and build trust with reliable service. SEPTA's Board approved the New Bus Network, as proposed in Bus Revolution, in May 2024. SEPTA is currently working with partners to identify a long-term funding solution that would allow for the full implementation of the redesigned bus network. If implemented, Bus Revolution would result in more people within walking distance of frequent bus service. The network has a total of 106 bus routes and 44 frequent routes (compared to 33 in the existing network). It also includes six new On-Demand (Microtransit) Zones. The Bus Revolution goals, strategies, and network are used throughout this document for analysis and recommendations — in particular, Goal 4: Increase transit ridership (see Chapter 2). Find updates on this initiative on the SEPTA Bus Revolution website.

TROLLEY MODERNIZATION

SEPTA's Trolley Modernization program will introduce new vehicles and station designs to create an accessible, fast, and easy-to-use system.

These changes will have an impact on SEPTA service and the surrounding built environment. New vehicles will increase passenger capacity and remove barriers for riders who cannot safely or easily board the current trolleys. Station improvements will transform

Figure 2: SEPTA Forward Lifestyle Network Diagram



Source: SEPTA (2023).

streetscapes while improving the waiting and boarding experience for passengers. Together, the changes implemented through Trolley Modernization present an opportunity to improve the passenger experience, increase ridership, and support SEPTA as a lifestyle network. Up-to-date information about this initiative is available on the Trolley Modernization page on SEPTA's website.

TRANSIT ORIENTED COMMUNITIES

SEPTA has created a comprehensive Transit Oriented Communities (TOC) program as a part of its efforts to deliver a seamless lifestyle transit network. TOC supports SEPTA's efforts to implement SEPTA Forward and aligns with the Authority's vision of transit at the core of the Greater Philadelphia region. TOCs are vibrant, welcoming places that support dense housing, retail, office, entertainment, and community services within easy walking distance of transit.

SEPTA's TOC program encourages equitable and sustainable community development around SEPTA services, allowing more people to live and work near high-quality transit. This includes development along high-frequency surface transit corridors. Today, 45 percent of the population in Bucks, Chester, Delaware, Montgomery, and Philadelphia counties lives within walking, biking, or rolling distance to transit services. That's 1.9 million people living on only 10 percent of the land in the five-county area. SEPTA recognizes that its inventory of real estate assets, as well as adjacent properties, can be leveraged by working in partnership with the communities it serves. SEPTA's TOC program also supports community-complementary land use, zoning, and development with context-sensitive station and corridor typologies. TOC provides a larger umbrella than a traditional TOD program by taking a people-first approach that includes smart growth advocacy, builder coordination, station area and transit corridor planning, multimodal access, and station design in addition to property development. The goals and strategies developed for this document — in particular, Goal 1: Increase corridor density and vitality (see Chapter 2) — support SEPTA's TOC program and align with these efforts.

In 2024, SEPTA published the *Transit Oriented Communities Guidelines* report. The report outlines goals and strategies that are tailored to urban and suburban typologies. It also describes SEPTA's role as a partner and sponsor when implementing TOCs. The full report and additional up-to-date information about this initiative are available at the Transit Oriented Communities page on SEPTA's website.

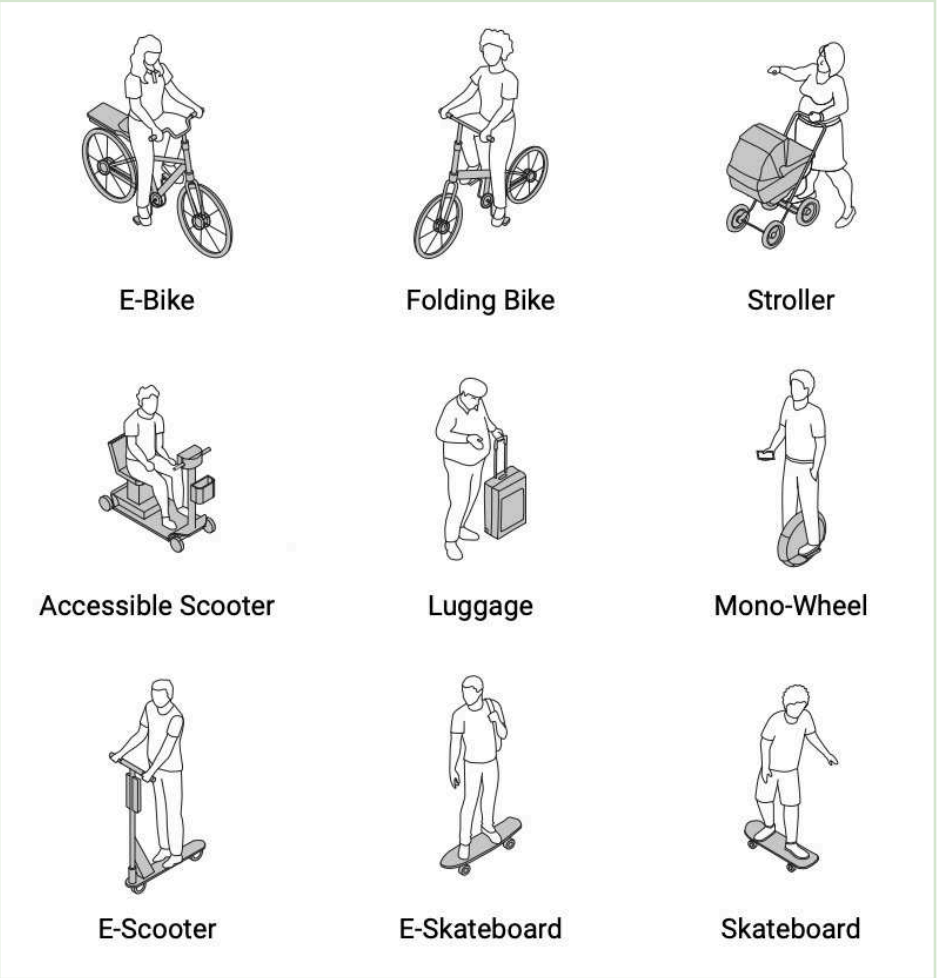
MICROMOBILITY PLAYBOOK (PUBLISHED 2023)

Micromobility options (see examples in Figure 3) can make transit more useful to more people as part of the lifestyle transit network. Micromobility devices are here to stay, and SEPTA, with partners, is proactively rethinking its policies, operations, infrastructure, and passenger communication to welcome this shift in mobility. The playbook is an update to the 2015 SEPTA Cycle Transit Plan and establishes recommendations for improvements to better accommodate micromobility devices on the SEPTA network, increase ridership, and realize the benefits of a system that is in sync with multimodal transportation options. The goals and strategies developed for this document — in particular, Goal 3: Reduce vehicular congestion (to improve transit operations) and pollution, and Goal 4: Increase transit ridership (see Chapter 2) — were selected to support implementation of the Micromobility Playbook and align with these efforts. Find more information about this initiative in the 2023 Micromobility Playbook.

SUSTAINABILITY PLAYBOOK (PUBLISHED 2024)

The 2024 Sustainability Playbook provides a seven-year plan for SEPTA to maximize the sustainability impact on their business practices, systems, equipment and facilities. The report includes updated information about meeting or missing previous targets, sets new targets and actions while strategizing limiting impact on the natural environment. The goals and strategies developed for this document — in particular, Goal 3: Reduce vehicular congestion (to improve transit operations) and pollution (see Chapter 2) — were designed to support SEPTA's sustainability program and align with these efforts. Find more information about this initiative in the 2024 Sustainability Playbook.

Figure 3: Examples of Micromobility Modes



Source: SEPTA Micromobility Playbook (2023).

High-Frequency Corridors in SEPTA's Service Area

High-frequency corridors are the target for SEPTA's TOC program. To define and identify these corridors, DVRPC and SEPTA worked with a steering committee representing municipalities and counties in SEPTA's service area. The corridors are continuous stretches of roadway, at least one mile long, served by high-frequency surface transit. This includes roadways with the following surface transit service after SEPTA's Bus Revolution, adopted in spring 2024, is implemented:

- planned bus or trackless trolley frequency of six vehicles per hour or more in the City of Philadelphia
- planned bus frequency of four vehicles per hour or more and located outside of the City of Philadelphia
- trolley routes or that are parallel and adjacent to dedicated trolley rights-of-way

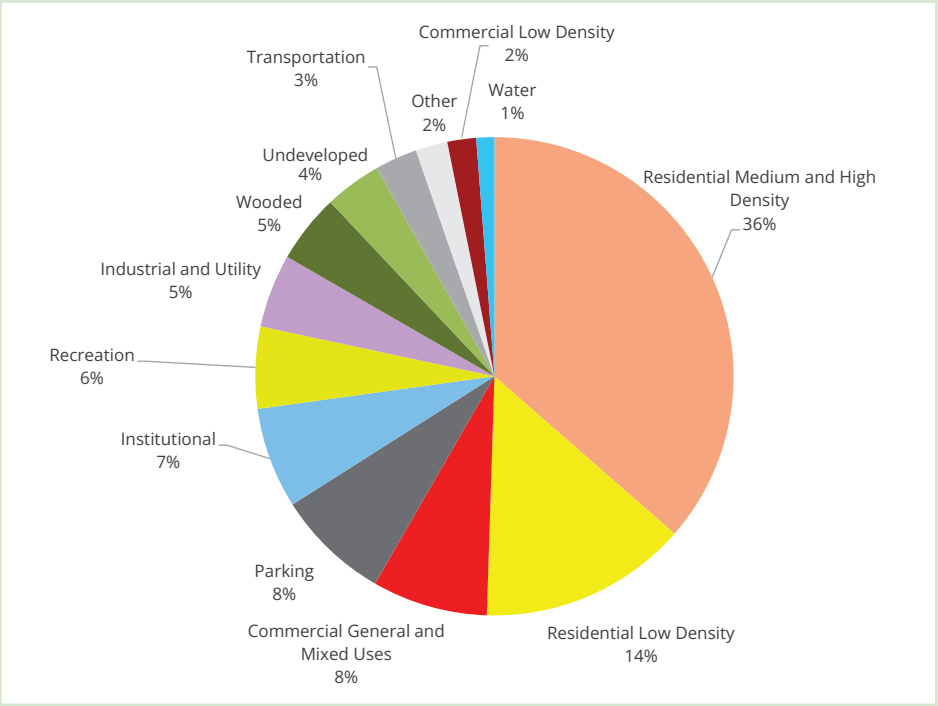
A map of this high-frequency network is shown in Figure 5. The methodology for the corridor selection process is detailed in Appendix A.

As of spring 2024, more than 176,000 passengers board surface transit routes on these 72 high-frequency surface transit corridors on an average weekday.[6] This represents 42 percent of weekday bus, trolley, and trackless trolley ridership at only 24 percent of surface transit stops in SEPTA's network.

The potential customer base is far greater. Employers within a quarter mile of the corridors employ about 450,000 individuals as of 2015, the latest year for which these figures are available, and according to the 2020 U.S. Census, approximately 439,000 people live in the census blocks that touch the corridors. Quality transit service and the application of TOC principles could attract more residents and employees to existing high-frequency transit routes.

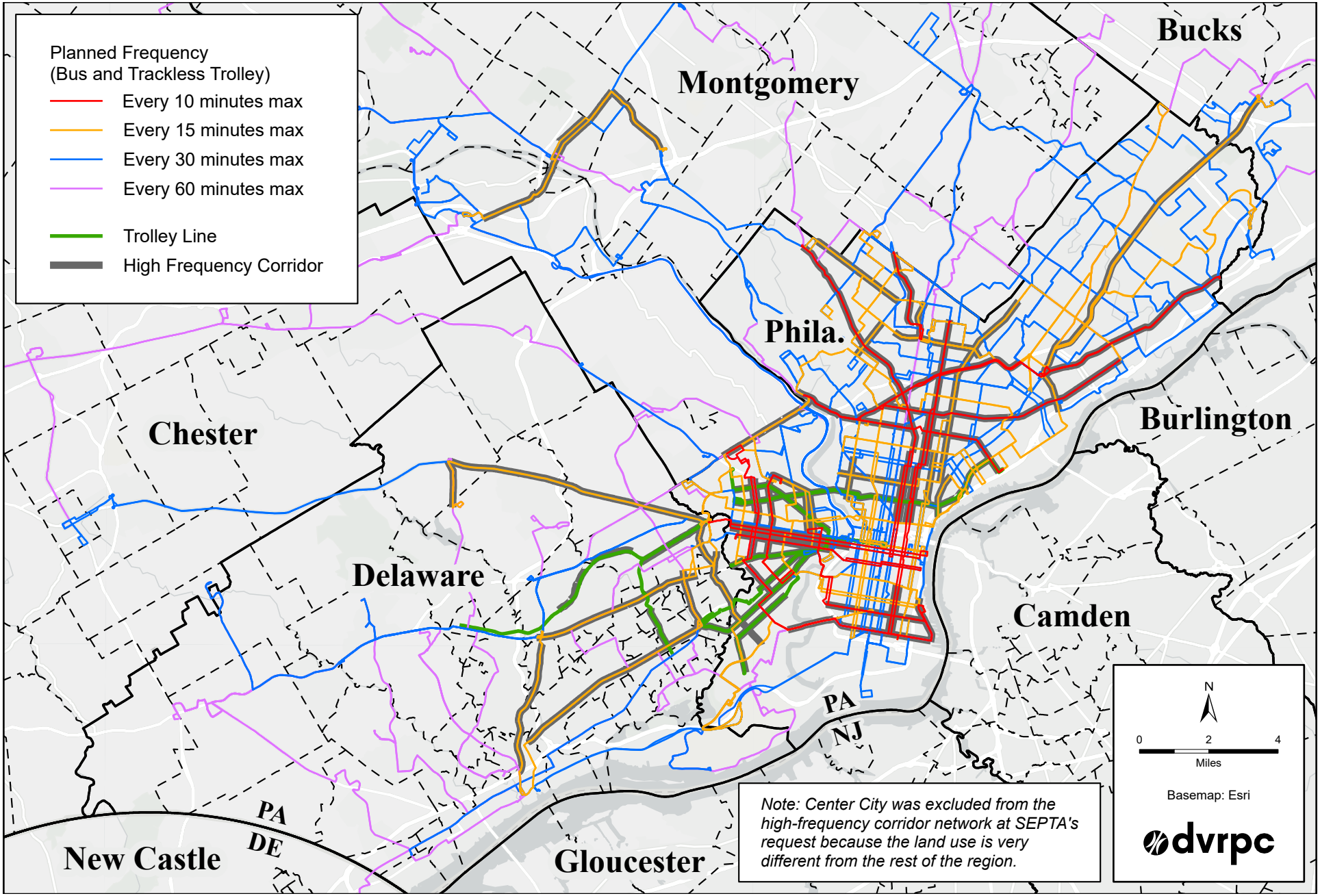
Figure 4 shows current land uses along the high-frequency corridors in SEPTA's service area.[7] Of 40,500 acres of land within a quarter mile of the high-frequency corridors, approximately 14 percent is dedicated to low-density uses (i.e., single-family residential, auto-oriented commercial, and parking lots greater than one-half acre in size). By contrast, only 8 percent of that land is mixed-use. Denser, mixed-use development on these corridors can support increases in transit ridership and other TOC-related goals. Low-density areas that have high-frequency transit are key opportunities for infill development.

Figure 4: Land Use Along High-Frequency Corridors



Source: DVRPC (2015).

Figure 5: High-Frequency Surface Transit Corridor Network



Note: The high-frequency corridor network is defined on the previous page. Source: DVRPC and SEPTA (2024).

Chapter 2: Transit Oriented Communities Toolkit

Introduction

This chapter describes four goals and how they can be achieved at the corridor level using a variety of transit-supportive strategies. This toolkit of strategies includes local and national examples of the strategies that are intended to provide useful references for SEPTA and planning partners when discussing changes to comprehensive plans, updates to zoning codes, and proposals for specific development projects.

Zoning and land use decisions that impact transit ridership have a significant impact on the character of a community. SEPTA is frequently asked for input into development review along its transit routes, zoning remapping efforts, and comprehensive plan revisions. This toolkit can support SEPTA's review of these and for planning its own property. Local entities (e.g., agencies, firms, municipalities, counties, and transportation management associations) that wish to promote denser development with less reliance on private automobiles can also reference this toolkit to identify interventions that support their specific objectives related to TOCs.

Transit-Oriented Development on a TOC Corridor

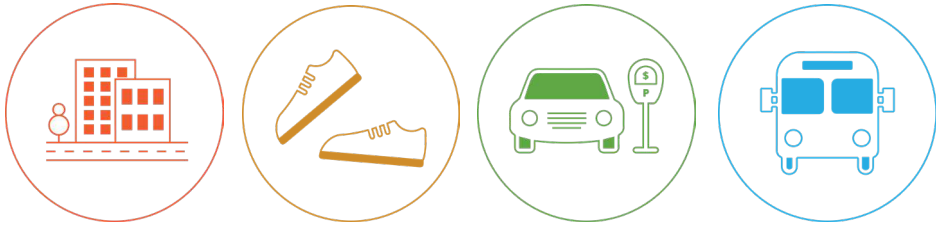
TOC corridors can span miles and can connect multiple neighborhoods and municipalities with varying characters, unifying them with high-quality transit services. These corridors are often community “Main Streets“ or avenues that are already home to a diversity of land uses. However, newer auto-centric developments often degrade walkability, transit operations, and the historic built environment.

Applying TOD principles at the corridor level enables residents, workers, shoppers, visitors, and students to access a variety of services and destinations without private automobiles. In a TOC, homes are conveniently located near routes served by frequent, reliable transit service, pleasantly walkable sidewalks and paths, and dense, mixed-use development. These features combine to make multimodal travel not only possible, but preferable. More pedestrians and transit customers, in turn, support a wider range of businesses and activate public spaces, while increasing the demand for, and the farebox revenues of, bus and trolley service. The most promising locations for these development patterns are “nodes,“ places where multiple high-frequency services intersect and support increased density. See Appendix A for more information about nodes.

Goals

SEPTA, DVRPC, and the steering committee identified four interrelated goals to guide TOC development and promote TOCs in the region. Many of the land use interventions traditionally used for station-based transit-oriented development support these four goals. When applied at the corridor level, they can leverage the ridership and convenience of high-frequency surface transit.

This section includes a brief description of each goal and corresponding land use, site planning, and streetscape design interventions that municipalities and counties can implement to support the goal. The page numbers listed correspond with a full definition of each strategy in the next section of this chapter.



GOAL 1 GOAL 2 GOAL 3 GOAL 4

Goal 1: Increase Corridor Density and Vitality

Increasing corridor density and vitality requires consistent medium- and high-density development near high-frequency transit to create economic opportunities for the people living and working along the corridor. Denser land use patterns can maximize the value of existing transit infrastructure by filling in gaps between residential, commercial, institutional, and recreational destinations along high-frequency transit corridors.

SUGGESTED STRATEGIES

Activate the Streetscape

Amenities that attract pedestrians and maintain visual interest promote a transit-friendly, walkable environment.

see page 16

Allow and Encourage Shared Parking

By giving two or more groups space to park at different times of day, shared parking facilities reduce the total amount of parking needed at a development and maximize utilization.

see page 18

Create Minor Streets

Minor streets along a TOC corridor result in small blocks and varied streetscapes that make it easier for multimodal users to reach buildings throughout a development and disperse vehicular traffic.

see page 19

Encourage Rear and Side Parking

Parking facilities to the side or rear of buildings allows for a pedestrian-friendly streetscape and enables building entrances to be accessible from the sidewalk.

see page 22

Increase Allowed Impervious Coverage

Allowing for increased impervious coverage of parcels on TOC corridors provides more space for the higher-density, mixed-use development that supports the vitality of these districts, and integrates nature-based solutions to support stormwater management and minimize the heat island effect.

see page 24

Increase Density of Existing Uses

Municipalities can require developers to build larger and denser buildings in designated TOD zones and around transit hubs.

see page 25

Permit Accessory Dwelling Units (ADUs)

ADUs can create more affordable housing options that help support transit ridership while maintaining existing neighborhood character.

see page 27

Reduce Building Setbacks

Buildings that abut, or are otherwise near to, the sidewalk can help create pedestrian-scaled urban design that is inviting and provides the feeling of greater safety.

see page 31

Update Zoning to Allow for Mixed-Uses

A range of uses along a corridor creates convenient, dynamic, and resilient communities that supports transit ridership.

see page 40

A multimodal network to and around high-frequency transit stops creates a more usable and equitable transit system. Customers can easily walk, bike, or roll to access transit stops and nearby destinations.

SUGGESTED STRATEGIES

Minor streets along a TOC corridor result in small blocks and varied streetscapes that make it easier for multimodal users to reach buildings throughout a development and disperse vehicular traffic.

see page 19

Municipalities can require real estate developers to include transit and multimodal infrastructure in their proposals and evaluate those proposals in traffic impact analyses that consider all modes.

see page 28

Installation of infrastructure that supports a safe and comfortable multimodal network to and on TOC corridors (e.g., sidewalks, protected bike lanes, multi-use trails) will make multimodal travel more attractive and expand access to high-frequency surface transit.

see page 30

Reduced parking along TOC corridors discourages driving to these corridors, thereby encouraging the use of transit and active transportation.

see page 32

Required sidewalks of appropriate widths should accommodate up-to-date ADA standards for wheelchair users, strollers, groups of pedestrians, and pedestrian infrastructure including benches and lighting.

see page 33

Pedestrian pathways through and around large parking lots or blocks make these areas more navigable, accessible, convenient, and safe.

see page 34

Vegetated buffers along TOC corridors maximize pedestrian safety and comfort by separating sidewalks from roadways, support stormwater management, provide shade, and minimize the urban heat island effect.

see page 35

Maximum lot widths can result in the development of a variety of accessible, smaller-footprint buildings, leading to more engaging and pedestrian-friendly streetscapes.

see page 36

Goal 3: Reduce Vehicular Congestion (to Improve Transit Operations) and Pollution

There are many benefits to reducing congestion, including increased trip reliability, productivity, and quality of life. Reduced congestion improves transit operations, increasing the appeal of taking transit, as well as other lower-emission modes like riding a bicycle or walking.

SUGGESTED STRATEGIES

Add Access Management Requirements to Local Ordinances

Creating vehicle access to buildings via shared alleys or surface lots can help mitigate the impacts of driveway traffic on pedestrians and transit operations.

see page 17

Encourage Rear and Side Parking

Parking facilities to the side or rear of buildings allows for a pedestrian-friendly streetscape and enables building entrances to be accessible from the sidewalk.

see page 22

Implement Off-Street Loading Zones

Creating off-street loading areas can help reduce congestion and pollution on roadways, while decreasing parking competition between commercial vehicles and other road users.

see page 23

Introduce a Parking Permit System

A permit system caps the number of cars that can park on certain streets, discouraging the use of personal vehicles.

see page 26

Set Pricing and Time Limits for Parking to Meet Desired Utilization

Taking an economic and strategic revenue management approach to pricing parking discourages over-reliance on personal vehicles and provides revenue to improve the walkability, safety, and visual interest of the area.

see page 37

Support Transit Operations Improvements

Cartway or traffic signal changes can help reduce delays and transit vehicle emissions, while increasing the convenience of transit and attracting more riders.

see page 39

Goal 4: Increase Transit Ridership

Increasing transit ridership requires transit to be convenient, affordable, and comfortable. This is possible by planning for and providing higher-frequency and more geographically expansive service, in conjunction with service and access improvements, including first- and last-mile pedestrian and bicycle connections.

SUGGESTED STRATEGIES

Develop a Program for Bus Shelters and Stop Amenities

Streetscape design along corridors served by bus routes should include stop amenities, such as benches and shelters, that improve bus rider safety and comfort, thereby encouraging transit usage.

see page 20

Encourage Direct Transit Benefits Through Bonuses

Density bonuses and other incentives can help encourage developers to provide transit-supportive features.

see page 21

Increase Density of Existing Uses

Municipalities can require developers to build larger and denser buildings in designated TOD zones and around transit hubs.

see page 25

Provide Residential Transit Pass and Shared Mobility Incentives

In addition to (or in lieu of) parking, municipalities can require or provide incentives to developers in TOC corridors to offer incoming residents with transit passes or bike/car share memberships.

see page 29

Reduce Parking Minimums/Set Parking Maximums

Reduced parking along TOC corridors discourages driving to these corridors, thereby encouraging the use of transit and active transportation.

see page 32

Require Pedestrian Pathways Within Development Sites

Pedestrian pathways through and around large parking lots or blocks make these areas more navigable, accessible, convenient, and safe.

see page 34

Set Pricing and Time Limits for Parking to Meet Desired Utilization

Taking an economic and strategic revenue management approach to pricing parking discourages over-reliance on personal vehicles and provides revenue to improve the walkability, safety, and visual interest of the area.

see page 37

Support Transit Operations Improvements

Cartway or traffic signal changes can help reduce delays and transit vehicle emissions, while increasing the convenience of transit and attracting more riders.

see page 39

Strategies

SEPTA is pursuing four interrelated goals on high-frequency transit corridors. Many of the interventions commonly used for station-based TOD also support achievement of these goals. In SEPTA's service area, these interventions — applied along corridors with high-frequency surface transit — have the potential to increase ridership and improve operations for millions of passengers.

Municipalities can pursue these strategies through a variety of tactics: requiring, encouraging, or directly implementing particular actions to create a more transit-supportive environment. Examples in this section typically entail changes to land use regulations and parking and development policies, inclusion in comprehensive plans and site plans, and incentives that encourage transit use over driving personal vehicles. The strategies cover a variety of topics including land use, mobility, building design, and parking.

Chapter 3 focuses on two high frequency surface corridors that exemplify the types of land use, site planning, and streetscape strategies included here.

CONTENTS

CONTENTS KEY

- Goal 1: Increase corridor density and vitality
- Goal 3: Reduce vehicular congestion (to improve transit operations) and pollution
- Goal 4: Increase transit ridership

HOW TO USE THIS INDEX OF STRATEGIES

The following section includes a series of implementable strategies that support SEPTA's high frequency surface transit corridor goals. Each strategy page includes a description of the strategy, local examples, an image, and identification of relevant goals, as shown below.

Describes the purpose and application of the strategy.

Provides one or more local or national examples of the strategy.

Illustrates the strategy or what the strategy is trying to fix.

Identifies which TOC goals relate to the strategy.

Add Access Management Requirements to Local Ordinances

DESCRIPTION

Pedestrian thoroughfares in TOCs should be as accessible and contiguous as possible. Driveways interrupt these walkways and create mixing zones where conflicts can occur as vehicles enter and exit parking facilities. To minimize the impact of driveways on pedestrian walkways, municipalities can limit them, particularly on streets served by transit.[12] Vehicles can instead access buildings through shared side alleys and rear driveways, separating this activity from pedestrian areas.[13] When curb cuts and driveways are unavoidable, they should be made accessible to pedestrians via clearly identifiable, safe, and ideally curb-level crossings.[14] Mixing zone treatments can include different pavement colors to highlight areas of potential conflict between driveways and pedestrian walkways. Driveways, when necessary, should be set back from intersections to avoid additional conflicts with pedestrians, bus and trolley stops, and other vehicles. Driveways near intersections should be prioritized for closure and consolidation.

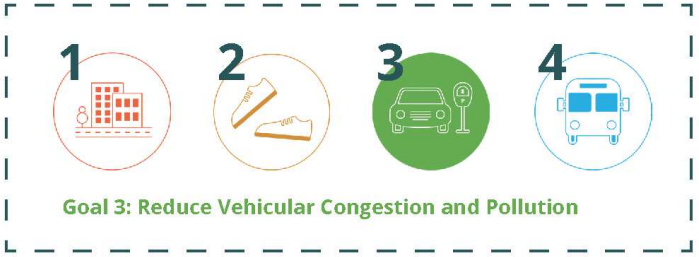
LOCAL EXAMPLES

The Philadelphia Streets Code prohibits curb cuts in areas designated by the Streets Department as a "Transit Platform Area."[15]

Darby Borough's zoning code requires walkways crossing parking, loading, or driveway areas in its TOD district be "clearly identifiable through the use of elevation changes, speed bumps, different paving materials or other similar method."[16]

Figure 7: Continuous Curb Cuts

Note: Wide, frequent curb cuts, such as those along City Avenue pictured above, reduce the predictability of vehicles entering and exiting the roadway, causing delays, congestion, and safety concerns for both pedestrians and transit vehicles. Municipalities can limit curb cuts and continuous driveways (as seen in this photo) through updates to the zoning code, comprehensive plan, or creating other local ordinances.[17] Source: DVRPC (2023).



Goal 3: Reduce Vehicular Congestion and Pollution

Activate the Streetscape

DESCRIPTION

Landscaping, sidewalk amenities, and sidewalk uses such as cafes and displays all work together to activate the streetscape. Cultivating this activity requires investment into landscaping, street furniture, and other amenities, updating zoning to allow for ground floor retail, and reducing barriers to sidewalk uses, as appropriate.

An active ground floor is critical to providing the lively, attractive, and interesting environment that characterizes a TOC.[8] Municipalities can use incentives to recruit a complementary mix of ground floor establishments that provide activity from morning to evening, while limiting the amount of building frontage permitted without active uses. In addition, municipalities can support efforts of building owners to create a business improvement district (BID). BID staff can take steps to reduce ground floor vacancy, such as managing the active recruitment of businesses along a commercial corridor in accordance with the goals a municipality establishes. In design review, municipalities can encourage street-facing entrances, unobstructed windows, pedestrian-level lighting, and other design features that support activity. Parking garages without ground floor establishments should be prohibited from TOC corridors.

LOCAL EXAMPLES

The Borough of Lansdowne's zoning code includes a requirement to obtain a sidewalk permit before operating an outdoor cafe on a Borough sidewalk, to ensure adequate sidewalk space is preserved.[9]

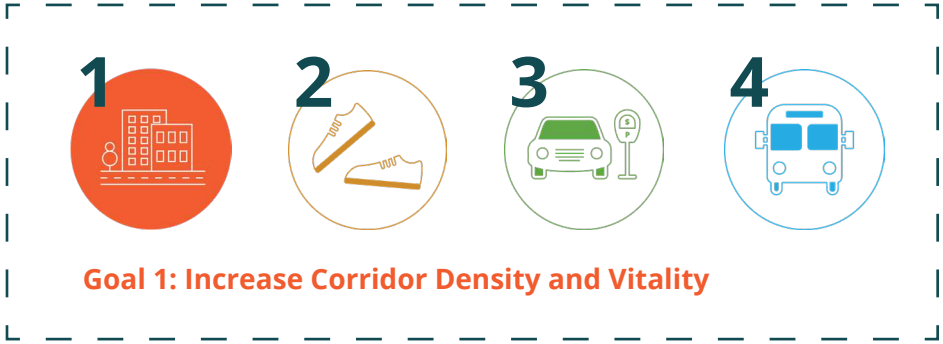
The Township of Tredyffrin has established Transit District (TD) overlays in their zoning code. In addition to requiring active ground floor uses within TDs, the Township requires transparent facades, variation in design, appropriate pedestrian scale, entrances that face streets, and limitations on expanses of unbroken walls.[10]

NATIONAL EXAMPLE

The City of Albuquerque awards Downtown Storefront Activation Grants, providing up to $50,000 over five years to businesses and nonprofits that help “Create an attractive physical environment with well-designed and engaging storefronts“ in the city’s downtown area.[11]

Figure 6: Active Streetscape

Note: Active streetscape pictured above with trees and other vegetation, sidewalk cafes, and active ground floor uses. Source: PedBikeImages.org / Ryan Snyder (2023).



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Goal 3: Reduce Vehicular Congestion and Pollution

Allow and Encourage Shared Parking

DESCRIPTION

Shared parking refers to a parking facility that serves two or more different groups without conflict, often at different times of day. For example, a shared parking structure in a TOD project may serve transit riders and office workers on weekdays, while also providing space for residents and shoppers to park in the evenings and during the weekend. This strategy allows for a reduction in the total amount of parking needed at a particular development and maximizes the utilization, and thus profitability, of the parking facilities that developers construct. This helps to alleviate the financial burden that required parking often places on new development.[18]

LOCAL EXAMPLE

Montgomery County's 2021 TOD Model Ordinance advocates for treating TOD "parking as a shared resource to be used more efficiently."[19] In doing so, it encourages "cooperative parking," in which single parking areas serve the needs of multiple users. It also includes the use of "shared parking," a way of calculating parking requirements for mixed-use developments such that a single parking space can serve two or more uses on any given day, due to differing peak parking demand times for various uses.[20] The model ordinance also provides a methodology for calculating effective shared parking requirements.[21]

The Ordinance states that cooperative parking fits best in use-intensive TOD located in what it calls Regional Mixed-Use Centers—areas of the county that have the most development potential and activity.[22]

Figure 8: Underutilized Parking Lot

Note: Parking that serves a single business may be underutilized at certain times of the day or week, like this diner parking lot in the middle of a weekday afternoon. Shared parking can maximize the usefulness of a lot. Source: DVRPC (2023).

Goal 1: Increase Corridor Density and Vitality

Create Minor Streets

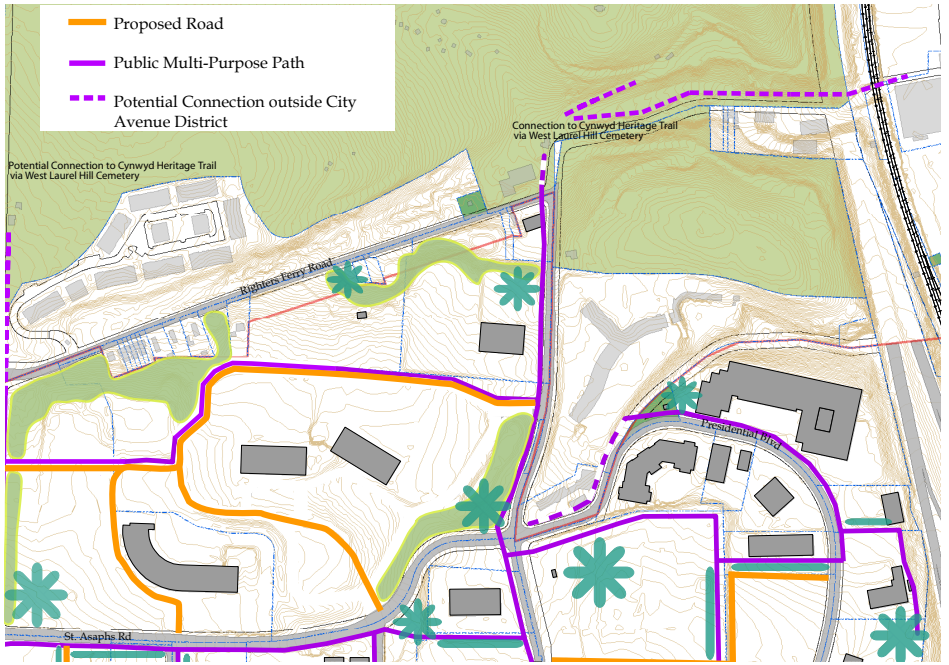
DESCRIPTION

Large block sizes can result in streetscapes that are uninteresting, monolithic, and pedestrian-unfriendly, as they can force people traveling by foot to walk longer distances to reach certain destinations. In keeping with the pedestrian-oriented nature of TOD, municipalities can require such zones be broken up into smaller, more manageable blocks through the creation of minor streets (and multi-purpose trails) that connect to the area's major arterials. This will result in more varied, interesting streetscapes, make it easier for pedestrians to reach buildings throughout a development, and disperse vehicular traffic. As defined by the National Association of City Transportation Officials (NACTO), minor streets typically incorporate only one or two moving vehicle lanes with a recommended speed limit of 20 miles per hour.[23]

LOCAL EXAMPLE

When developers propose a project on an existing lot wider than 600 feet (the maximum lot width established by the code) in its Regional Center Area of the City Avenue District (RCA), a Lower Merion Township ordinance requires the construction of new minor streets that split the lot into smaller, more pedestrian-friendly blocks.[24]

Figure 9: Lower Merion Township Comprehensive Plan



Note: Lower Merion Township's comprehensive plan illustrates proposed minor streets and public multi-purpose paths to facilitate movement through large blocks. Source: Lower Merion Township (2016).

Goal 1: Increase Corridor Density and Vitality

Develop a Program for Transit Shelters and Stop Amenities

DESCRIPTION

When TOD is located along established bus or trolley routes, including new and/or updated stop amenities, such as shelters, screens that display real-time service information, and stop locations that are in close proximity to building entrances can improve transit rider experience and increase the multimodal accessibility of the development. Municipalities can directly assume responsibility for providing shelters or they can outsource it to other parties, such as consultants, contractors, or developers building along a TOC corridor. Shelters, shade, and other cooling elements will become even more important with increasing temperatures caused by climate change.

Construction of bus stop infrastructure should be carefully coordinated between the relevant developers, municipalities, and transit agencies to ensure that new infrastructure works with the transit services it intends to complement and does not encroach on pedestrian paths. Infrastructure should not be built where service does not exist without coordination with transit agencies and municipalities. SEPTA's Bus Stop Design Guidelines should be consulted to ensure the stop meets the needs of operators and customers.[25] Maintenance and upkeep are also key considerations when planning to add new transit shelters and stop amenities.

LOCAL EXAMPLE

Started in 2014, the City of Philadelphia's Bus Shelter Program aims to modernize its 300 existing bus shelters and install an additional 300, with a goal of maximizing the number of riders served by shelters. New and renovated shelters feature night lighting as well as seating and are ADA compliant. The City chooses which existing bus stops to modernize and where to create new ones based on ridership; geographic and social equity; community requests; and proximity to grocery stores, senior housing, and healthcare facilities.[26]

Figure 10: Bus Shelter

Note: Bus shelter located between 7th and 8th Streets in Philadelphia. Source: Marissa Volk Binjaku, DVRPC (2024).

Goal 4: Increase Transit Ridership

Encourage Direct Transit Benefits Through Bonuses

DESCRIPTION

A density bonus is a local incentive that allows developers to build more floor-area ration (FAR) — and therefore more revenue-generating square footage — in exchange for the inclusion of a specific, desired, public benefit (e.g., affordable housing). Municipalities can consider use of this tool to encourage the integration of transit-supportive infrastructure in their developments. Improvements can include, but are not limited to, bus shelters, transit customer parking spaces, accessibility features, or bus pull-offs.[27]

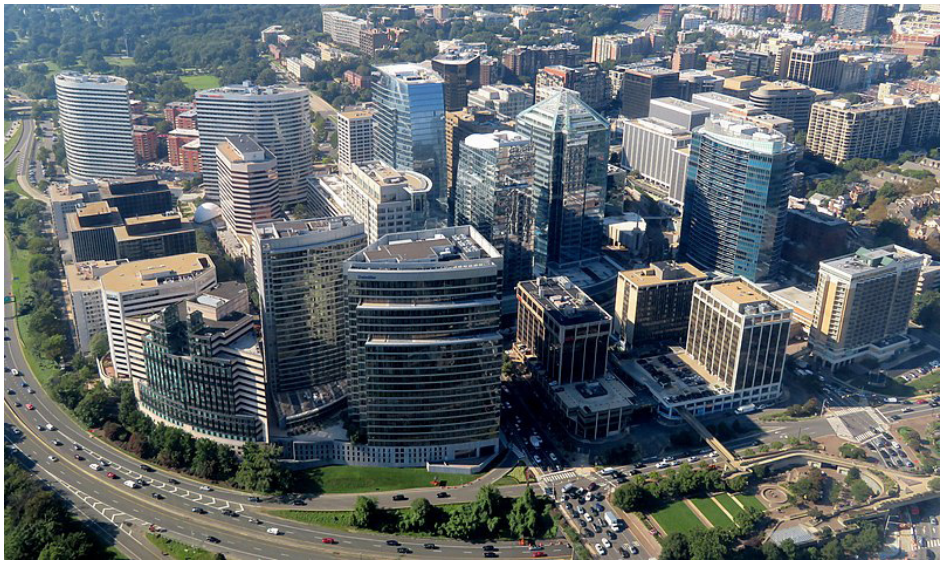
Construction of transit-supportive infrastructure should be carefully coordinated between the relevant developers, municipality, and transit agency, to ensure that new infrastructure is appropriate for the transit service it intends to complement.

LOCAL EXAMPLE

Penndel Borough's TOD Overlay District Ordinance awards developers different kinds of bonuses, depending upon the "extent, quantity, and quality" of the transit-oriented improvements the development is expected to provide. For example:

- An incremental increase in FAR from 150 percent to 200 percent
- An increase in maximum building density of up to 40 dwelling units per acre for residential development and 80 dwelling units per acre for mixed-use development
- An incremental increase of maximum impervious coverage from 75 percent up to 85 percent
- An incremental increase in site building coverage from 75 percent up to 85 percent
- A 10 percent reduction or greater of the total number of required residential parking spaces where a project proposes a mixed-use residential and commercial building[28]

Figure 11: Development Along Transit Corridor



Note: Developers who built along the Rosslyn-Ballston transit corridor (pictured above) in Arlington, VA, and invested in streetscape improvements were granted bonuses to build denser structures. Source: pi.1415926535 via Wikimedia Commons.

Goal 4: Increase Transit Ridership

Encourage Rear and Side Parking

DESCRIPTION

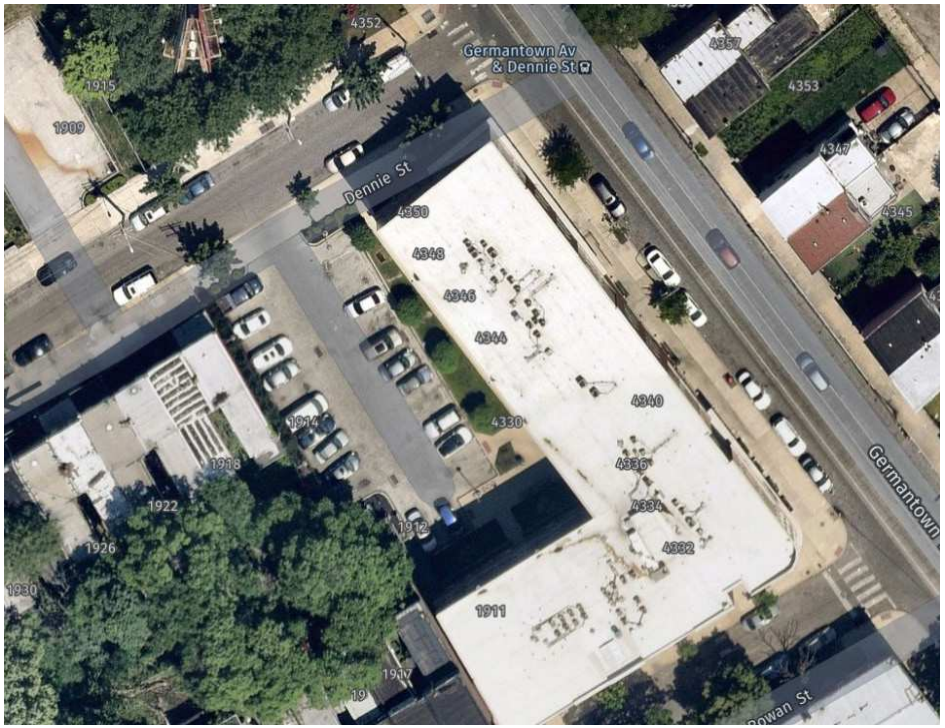
When located at the front of buildings, parking facilities can dominate the public right-of-way, resulting in unattractive environments and making it harder for pedestrians to safely access commercial and residential developments, as well as nearby transit facilities.[29] To rectify this, municipalities may require parking facilities in TOD zones to be located to the rear or on the sides of buildings to ensure that building entrances are oriented to, and easily accessible by, the sidewalk.[30]

LOCAL EXAMPLES

The TOD Overlay District in Philadelphia's zoning code prohibits accessory surface parking lots and garages "between the principal structure and the street frontage," meaning that these facilities must be located to the side or rear of their associated building.[31]

Bridgeport Borough's TOD District Ordinance states that all surface parking lots in the district should be located to the rear of their associated buildings, and structured parking "should be designed as rear-entry or side-entry, when feasible." [32]

Figure 12: Rear and Side Parking



Note: Rear and side parking at the residential development Grande at Riverview in a TOD zone in Conshohocken, PA. Source: Nearmap (2023).

Goal 1: Increase Corridor Density and Vitality
Goal 3: Reduce Vehicular Congestion and Pollution

Implement Off-Street Loading Zones

DESCRIPTION

When present in TOD zones, on-street parking is likely to be limited and metered. Drivers may find themselves competing with commercial vehicles (such as delivery vehicles) for space. Limited parking may also encourage commercial vehicles to double-park or to circle while looking for an open and convenient street parking space, which may obstruct the roadways and make travel slower for transit users, motorists, cyclists, and pedestrians. Municipalities can require developers in TOD zones to incorporate designated loading areas into their designs — preferably away from main streets and building frontages — to reduce the possibility of competition and conflict between commercial vehicles and other road users.

LOCAL EXAMPLES

Ambler Borough's zoning code requires that all loading activity in TOD zones occurs in designated areas located along the side or rear of buildings.[33]

The Philadelphia zoning code requires that all land uses that are given a zoning variance provide off-street loading in accordance with the use that has the strictest requirements at the gross floor area occupied by that use. Additionally, required loading spaces are calculated by the cumulative gross floor area occupied by each use in a mixed-use building or development.[34]

Figure 13: Street Lacking Dedicated Loading Zones

Note: Without dedicated off-street loading options, freight delivery drivers may choose to use a travel lane for unloading vehicles, as in this example on Chestnut Street in Philadelphia. The vehicle is parked and causing delays for other road users, including bus passengers. Source: DVRPC (2022).

Goal 3: Reduce Vehicular Congestion and Pollution

Increase Allowed Impervious Coverage

DESCRIPTION

Impervious coverage refers to the amount of a site covered by materials that do not absorb water, and thus cause complete stormwater runoff. This includes buildings and paving used for roadways, walkways, parking, and patios (i.e., asphalt, concrete, etc.).[35] Allowing for increased impervious coverage of parcels on TOC corridors provides more space for the higher-density, mixed-use development that supports the vitality of these districts, and integrates nature-based solutions to support stormwater management and minimize the heat island effect. Such policies should be paired with rear parking requirements or parking maximums (see pages 22 and 32, respectively) to encourage the increased impervious surface to be used for buildings and multimodal infrastructure rather than parking or driveways.

Any increase in impervious surface coverage must be accompanied by additional forms of stormwater management to mitigate flood risk. Additionally, regulations should make it clear that increased impervious surfaces should not be used for transit or pedestrian-unfriendly uses, such as off-street parking lots and structures.

LOCAL EXAMPLES

Ambler Borough's zoning code assigns a maximum impervious coverage of 80 percent for developments in TOD zones, higher than in any other zone, except for its Office District (also 80 percent) and its Downtown Commercial-2 District (100 percent).[36]

The North Wales zoning code allows for an impervious coverage of up to 90 percent for mixed-use buildings in its TOD District, which is higher than in any of its other zoning districts (which range from 50 to 80 percent).[37]

Figure 14: Underutilized Impervious Coverage

Note: Existing impervious coverage is often used for additional parking. To support TOD, a larger percentage of impervious coverage should be dedicated to buildings. Source: DVRPC (2023).

Goal 1: Increase Corridor Density and Vitality

Increase Density of Existing Uses Near Existing or Planned Transit

DESCRIPTION

Municipalities can require developers to build larger and denser buildings in designated TOD zones and around transit hubs.[38] Both mandatory and incentive-based systems have benefits (see "Encourage Direct Transit Benefits Through Bonuses on page 21").

Municipal staff and boards seeking to increase density near existing or planned transit can take action by making changes to the zoning code to facilitate growth by identifying areas to upzone or rezone, allowing development where it has not been allowed previously, and/or ensuring the design review process is conducive to increasing density. A denser mix of uses can increase the number of potential transit riders and support local commerce and community.

LOCAL EXAMPLE

The City of Philadelphia zoning code allows developers to construct 50 percent more units than normally allowed on any CMX-1, CMX-2, CMX-2.5, or RM-1 lot if the lot also falls within the City's Transit-Oriented Development Overlay District.[39]

Figure 15: Single-Family to Multifamily Development

Note: North Line Street in Lansdale, PA, in 2009 (top) and in 2020 (above), after a new townhome development replaced single-family lots. Source: Google Maps (2023).

Goal 1: Increase Corridor Density and Vitality
Goal 4: Increase Transit Ridership

Introduce a Parking Permit System

DESCRIPTION

The implementation of a parking permit system can help manage the supply and demand of on-street parking in TOD areas, as well as set aside parking for local residents. Creating a permit system caps the number of vehicles that can park on certain streets, helping to prevent them from reaching capacity. Parking permit systems also can discourage people without permits from using private vehicles to travel to TOD districts and prompt them to reach the area via transit, walking, or biking.

While permit parking can help reduce the number of vehicles parked in a TOD area, it is still likely that at least some people without permits will access the area via private car. Permitting systems should ensure the number of permits issued is less than the number of available spots and allow for metered or off-street visitor parking. Additionally, the number of permits should be capped (i.e., one permit per household) and measures should be developed to prevent long-term storage of vehicles.

LOCAL EXAMPLE

Bill No. 240335 passed in May 2024 by Philadelphia City Council proposes to increase the base cost of parking permits from $35.00 to $75.00. This bill also imposes a limit of three residential parking permits per single residence; previously there was no limit. Lastly, the bill gives the Philadelphia Parking Authority the direct ability to increase the price of permits up to three times per year. These increases may be made without Council's approval beginning in 2026.[40]

Figure 16: Permit Parking

Note: Permit parking can help manage parking demand and prioritize resident needs, as demonstrated by signage in Philadelphia. Source: Andrew Svekla, DVRPC (2019).

Goal 3: Reduce Vehicular Congestion and Pollution

Permit Accessory Dwelling Units (ADUs)

DESCRIPTION

An accessory dwelling unit (ADU) is a small, secondary dwelling that is located on the same lot as a primary residence but has a separate entrance.[41] ADUs are more cost effective to build per unit than single- and multifamily housing due to their small size and use of existing utility connections, which allows them to be rented and sold at lower prices.[42] ADUs can serve as ideal housing for older adults looking to downsize, young adults moving back in with their families, and essential workers (like teachers) who could not otherwise afford to live in the communities in which they work.[43] ADUs are an option for gently densifying residential areas while maintaining the existing character.[44] ADUs are usually built in lower-density residential areas. Single Room Occupancies (SROs), a type of low-cost housing with shared kitchen and/or bathrooms, could be explored to further densify higher-density residential areas.[45]

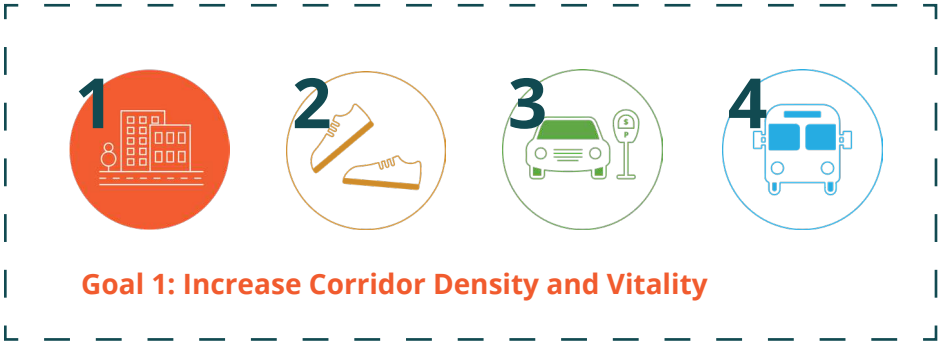
Care must be taken when setting owner occupancy requirements for ADUs. If done thoughtfully, such requirements can help maintain unit affordability by deterring their purchase by investors and large-scale landlords, while allowing homeowners to build wealth by renting out their ADUs. On the other hand, owner occupancy requirements can limit options for ADU use and lead to a decrease in their production and rental availability.[46]

LOCAL EXAMPLE

The City of Philadelphia's zoning code allows ADUs on lots occupied by detached or semi-attached single-family homes, within any structures designated as historic, or on lots at least 1,600 square feet in size in RSA-5 and CMX-1 Districts. Either the principal dwelling or accessory dwelling unit on each lot must be occupied by the owner of the lot itself. No more than one ADU is allowed per lot, and the unit cannot exceed 800 square feet in size (unless it is within a historic structure).[47]

Figure 17: Accessory Dwelling Unit

Note: Backyard accessory dwelling unit and neighboring homes in Seattle, WA. Source: Sightline Institute Modest Middle Homes via Flickr.



Prioritize Multimodal Improvements in Proposed Developments

DESCRIPTION

Municipalities can leverage large developments to improve transit and multimodal infrastructure by requiring developers to submit a development proposal with a traffic impact analysis (TIA) or traffic impact study (TIS) that highlights any anticipated impact on surface transit and proposes solutions to any identified potential disruptions.[48] Municipalities can work with transit agencies and developers throughout the TIA/TIS process to use transit and other non-SOV modes to mitigate traffic impacts of development.

Instead of requiring developers to invest in vehicular infrastructure to offset traffic delay due to a new development, municipalities can require an investment in multimodal infrastructure on the surrounding street network and within the development itself to reduce the volume of single-occupancy vehicles. If a developer agrees to make improvements to transit and multimodal infrastructure, municipalities should allow developers to assume that mode share in their TIA/TIS.

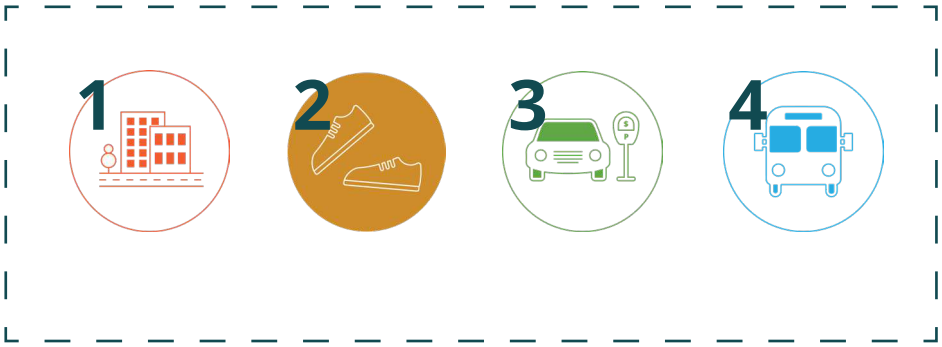
LOCAL EXAMPLES

Ambler Borough's zoning code requires that developers along TOD corridors prepare a report analyzing the impact that their proposed project will have on traffic conditions at intersections within 1,000 feet of the development site. Ambler may require the developer to implement traffic and transportation improvements in order to mitigate predicted adverse effects on local transportation.[49]

The Philadelphia City Planning Commission requires developers to fill out the Philadelphia Complete Streets Handbook Checklist as a function of its Civic Design Review process. This checklist is used to document how project applicants considered and accommodated the needs of all users of city streets and sidewalks during the planning and/or design of projects affecting public rights-of-way.[50]

Figure 18: Sidewalk Facilities at Large Development Site

Note: Developers should work with transit agencies and municipalities throughout the TIA/TIS process to use transit and other non-SOV modes to mitigate traffic impacts of a large development, like near this new warehouse in Newtown Square, PA. Source: Google Maps (2023).



Provide Residential Transit Pass and Shared Mobility Incentives

DESCRIPTION

To incentivize increased transit ridership, developers in TOCs may provide transit passes to incoming residents and workers as part of their developments' amenities packages. These transit passes can be in addition to, or in lieu of, dedicated parking spaces, and municipalities may even consider requiring developers to provide residents with transit passes or car/bike share memberships instead of a minimum amount of parking.[51] Additionally, municipalities can allow developers to buy out of parking minimums if a transit pass is provided for a certain number of years.

LOCAL EXAMPLE

SEPTA has a pilot called SEPTA Key Advantage: Multifamily Residential Program. Key Advantage will allow property managers to add an All-Access SEPTA amenity to their tenant packages. The program is universal, meaning the passes will need to be purchased for all units.

NATIONAL EXAMPLES

In 2015, the City of Seattle proposed a program that would require developers building in areas served by frequent transit to offer their tenants a number of alternative transportation options in lieu of parking, such as a bus pass, a bike share membership, or a car share membership.[52]

In Arizona's Culdesac Tempe development, the first "zero-driving community" in the U.S., developers provide residents with complimentary access to ride-hailing services, car share, and unlimited passes on the local Valley Metro transit system.[53]

Figure 19: SEPTA Key Card

Note: Property managers can provide transit passes and shared mobility options to residents to encourage and subsidize mode shift. Source: DVRPC (2023).

Goal 4: Increase Transit Ridership

Provide Safe Multimodal Facilities

DESCRIPTION

It is important to establish a safe and comfortable multimodal network to and around TOD areas and the transit stops and stations that they surround. In order to make such travel more accessible, municipalities should ensure that development in TOD districts includes the provision of multimodal facilities and associated infrastructure, such as protected and safe bike lanes, bike parking, benches, and space for bike and car share. Municipalities can require the presence of these features in development or use density bonuses to incentivize their inclusion.

Municipalities should also budget to directly provide multimodal facilities in TOCs and ensure bike lanes, multi-use trails, and other multimodal infrastructure connects to and is built on transit corridors. SEPTA released its Micromobility Playbook in 2023, which focuses on facilitating access to its stations and stops (see Chapter 1 for more details). Municipalities and SEPTA should work closely together to ensure multimodal facilities complement transit service.

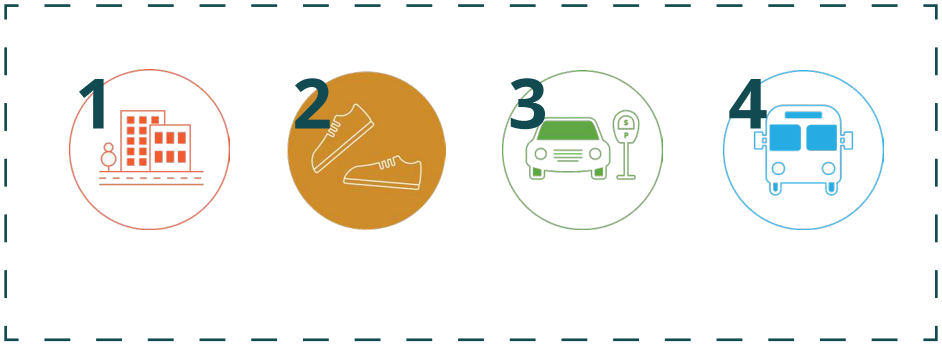
LOCAL EXAMPLES

Darby Borough's TOD Overlay District Ordinance requires parking lots and garages built within the district to include one bicycle parking space per 20 vehicle spaces and mandates that all office, multifamily, and freestanding commercial uses to provide bike parking facilities.[54]

In addition to rewarding the construction of transit-related infrastructure, Penndel Borough's TOD Overlay District Ordinance grants developers a variety of bonuses if they agree to provide multimodal amenities, such as bike lanes and bike parking.[55]

Figure 20: Bike Share Station

Note: Indego Bike Share located between 8th and 9th streets in Philadelphia. Source: Marissa Volk Binjaku, DVRPC (2024).



Reduce Building Setbacks

DESCRIPTION

Buildings in TOCs should be easily accessible from the sidewalk and well-integrated into the pedestrian realm. Having buildings that abut, or are otherwise near, the sidewalk can help create an inviting, varied, and interesting pedestrian environment.[56] Reduced building setbacks can also make TOC streetscapes feel safer by providing informal surveillance from building inhabitants.

To achieve this, municipalities may set maximum front and/or side setbacks or build-to-line requirements (a line that is generally parallel to the property line of a lot where the exterior wall of a building must be located) in zoning ordinances that ensure buildings within TOCs front their respective streets.[57] While reduced front and side setbacks can make TOC streetscapes more lively and interesting, it is still important to ensure that there is adequate room for sufficiently-wide, ADA-compliant sidewalks and amenities like sidewalk cafes and planting strips.

LOCAL EXAMPLES

Ambler Borough's zoning code requires that buildings within TOD districts be set back eight feet from the street, much less than its setback requirements for purely residential districts (ranging from 25-30 feet).[58]

The Philadelphia zoning code's TOD Overlay District requires that all new buildings be built to the right-of-way line at ground level along at least 80 percent of the primary street frontage.[59]

Figure 21: Building Setbacks

Note: Buildings that reach the property line in downtown West Chester, PA, promote a walkable environment. Source: Karin Morris, DVRPC (2019).

Goal 1: Increase Corridor Density and Vitality

Reduce Parking Minimums/Set Parking Maximums

DESCRIPTION

Reducing required parking minimums or setting parking maximums can help make TOC streetscapes more vibrant and pedestrian-friendly while also reducing development costs for residential, commercial, and mixed-use buildings within the area. By limiting parking availability, this strategy makes transit a more attractive option.

Specific parking needs will vary depending on the unique combination of land use, development patterns, and transit service at each site.[60] Thus, it is important to consider these characteristics when determining appropriate parking minimums and maximums in individual TOCs.

LOCAL EXAMPLES

The City of Philadelphia's zoning code mandates a reduction in otherwise applicable minimum parking requirements by five spaces or 50 percent (whichever is larger) for any CMX-4, CMX-5, RMX-3, or RM-4 lots within its TOD Overlay Districts. For all other zoning types within Philadelphia's TOD Overlay Districts, parking requirements are reduced by five spaces.[61]

In its TOD Model Ordinance, Montgomery County recommends setting parking maximums at 120 percent of the minimum parking generally required at a specific site, unless its developers have reached cooperative parking agreements with neighboring properties or are intending to reserve a portion of the resulting development's allocated parking space for public parking.[62]

Figure 22: Before and After Reducing Required Parking

Note: Graphic above illustrates an example of how parking can be reconfigured within the same space limitations. Reducing the amount of required parking reallocates space to additional units and multimodal amenities. Source: City of Boston (2023).

Goal 4: Increase Transit Ridership

Require and Provide Wide Sidewalks Along Roadways

DESCRIPTION

Wide, contiguous, visually appealing, and accessible sidewalks are vital to the safety and comfort of people walking and rolling, especially along street frontages that connect structures to one another and to nearby amenities such as transit service and open space.[63] To accomplish this, municipalities can require developers to include sidewalks with regulated clear-path widths and other related infrastructure (like signage, lighting, and street furniture) in their designs. Municipalities can also directly invest in sidewalks to create well-maintained, continuous walking options along and to TOC corridors.[64]

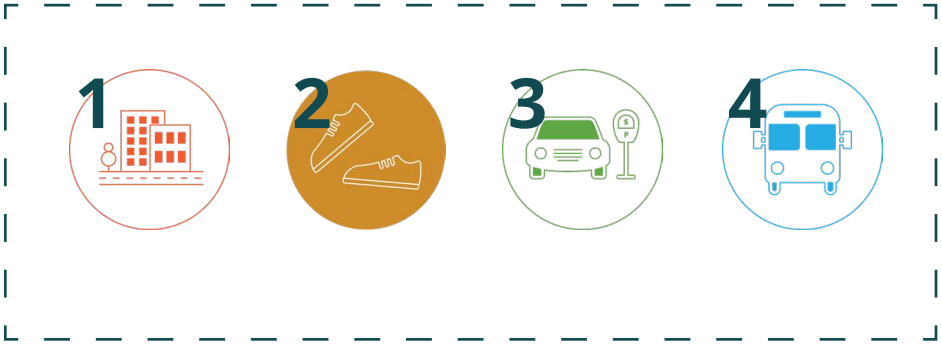
Pennsylvania law requires that sidewalk construction and maintenance be performed by the adjacent property owner except when a sidewalk is deemed necessary for pedestrian safety, in which case it may be constructed by the municipality or road owner.[65] Sidewalk construction may have to wait until site redevelopment in areas without existing sidewalks. If a municipality does not have funds to construct or maintain sidewalks, other entities such as business improvement districts (BIDs) or community development corporations (CDCs) can directly improve sidewalks by offering streetscape improvement grants to property owners on and near TOC corridors.

LOCAL EXAMPLE

Ambler Borough's zoning code requires that "Sidewalks or other walkways acceptable to the governing body shall be provided along all internal streets and driveways" in its TOD areas, and that these sidewalks must be at least five feet in width when less than 300 feet from a transit station.[66]

Figure 23: Sidewalk Connectivity

Note: Wide, well-maintained sidewalks with pedestrian-level lighting on City Avenue in Bala Cynwyd, PA. Source: DVRPC (2023).



Require Pedestrian Pathways Within Development Sites

DESCRIPTION

An important part of TOC design is making sure there are ways for pedestrians to comfortably navigate features within development sites that are typically not pedestrian-friendly, such as large parking lots or monolithic blocks. While these features should be minimized in TOCs, they are sometimes unavoidable, especially if they predate TOC-related planning in an area. Requiring the creation of pedestrian pathways through and around these features can make them much more navigable and can reduce the amount of time needed to traverse them. These pathways supplement roadway sidewalks (see previous page).

LOCAL EXAMPLES

Montgomery County's TOD Model Ordinance states that surface parking lots within TOD Districts should contain sidewalks or internal pedestrian paths a minimum of four feet wide that connect the lot to pedestrian-oriented building entrances in the District.[67]

Ambler Borough's zoning code requires that all TOD areas in the municipality include "convenient pedestrian connections" that link all residential, nonresidential, and mixed-use buildings to transit stations, parking areas, open space, and recreational areas.[68]

Figure 24: Pedestrian Pathway

Note: Pedestrian pathway runs through a parking lot and connects to a sidewalk at a development in Orenco, OR. Source: PedBikeImages.org / Dan Burden.

Goal 4: Increase Transit Ridership

Require Planting Strips and Pedestrian Buffers

DESCRIPTION

Pedestrian safety and comfort are critical elements of design in TOCs. Municipalities can require the installation of bollards, trees, street furniture, or other buffers to provide physical separation between sidewalks and roadways, which can help make the sidewalk pedestrian experience safer and more comfortable.[69]

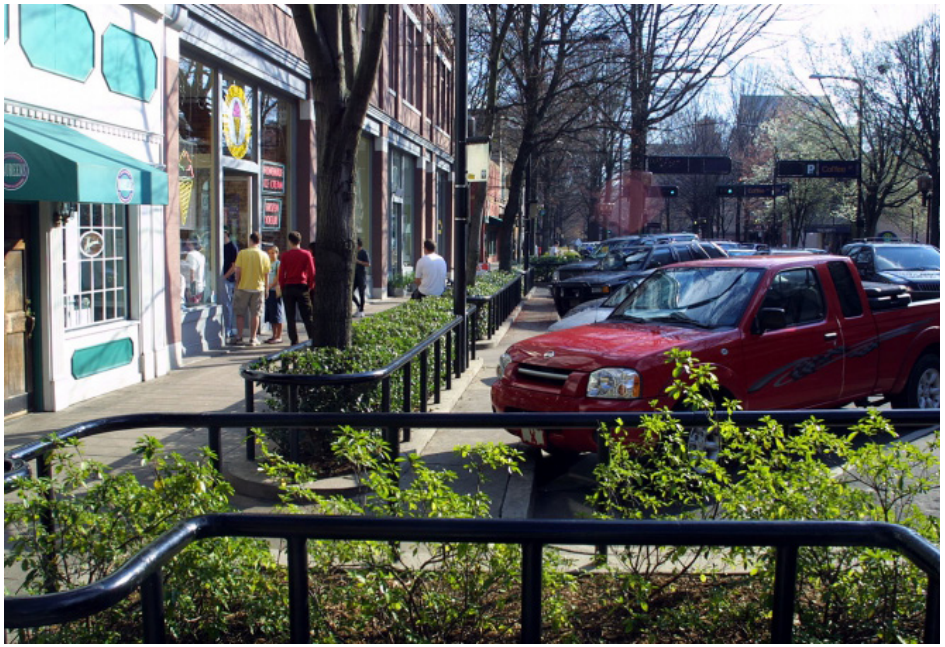
In addition to creating a pedestrian buffer, trees and vegetation help support stormwater management, calm traffic by visually narrowing the roadway, and reduce the urban heat island effect by providing shade.[70] Areas where pedestrians may be congregating or resting, such as transit stops, should be prioritized when making green infrastructure improvements. Planting trees near transit stops increases shade coverage, and thus, the number of passengers that can wait more comfortably for the next arrival. However, trees should not be used as a replacement for a transit shelter. Maintenance and upkeep are also key considerations when planning to add new vegetation.

LOCAL EXAMPLES

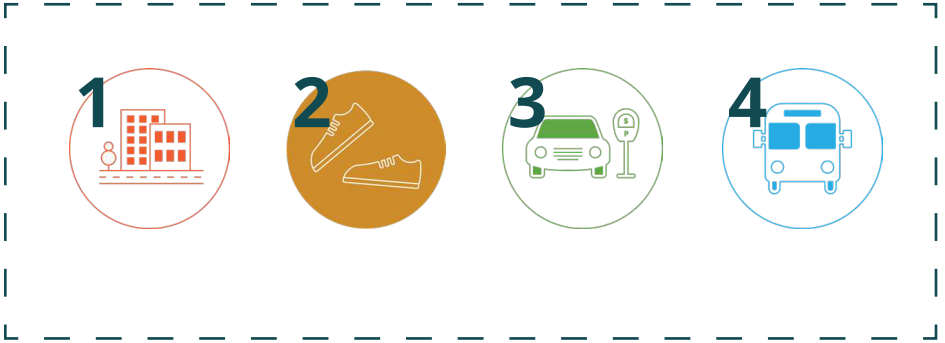
Montgomery County's TOD Model Ordinance advocates for the use of street trees and landscape strips between sidewalks and streets to create a welcoming, cohesive streetscape within a TOD and to buffer pedestrians from vehicular traffic, making the sidewalks safer.[71]

The City of Philadelphia has several programs dedicated to greening the public rights-of-way. Philadelphia Parks & Recreation can help property owners get a free street tree planted in front of their home, business, or other property.[72] Additionally, the Philadelphia Water Department created a green infrastructure program called *Green City, Clean Waters* to reduce the volume of stormwater entering combined sewers. Since launching in 2011, the program has installed more than 2,800 green tools at nearly 800 sites throughout the city.[73]

Figure 25: Buffer Between Sidewalk and Street



Note: Planting buffer separating the sidewalk from the street in Greenville, SC. Source: PedBikeImages.org / Dan Burden.



Set Maximum Lot Widths

DESCRIPTION

Large lot sizes can encourage the development of correspondingly large structures, which can result in landscapes dominated by a few buildings that are not visually interesting, engaging, or accessible at the pedestrian scale. Setting a maximum lot width in the zoning for TOCs can prevent this, by mandating the construction of smaller, more varied buildings that pedestrians can easily access. A greater number of buildings can also result in a higher diversity of uses, leading to a more vibrant TOC.

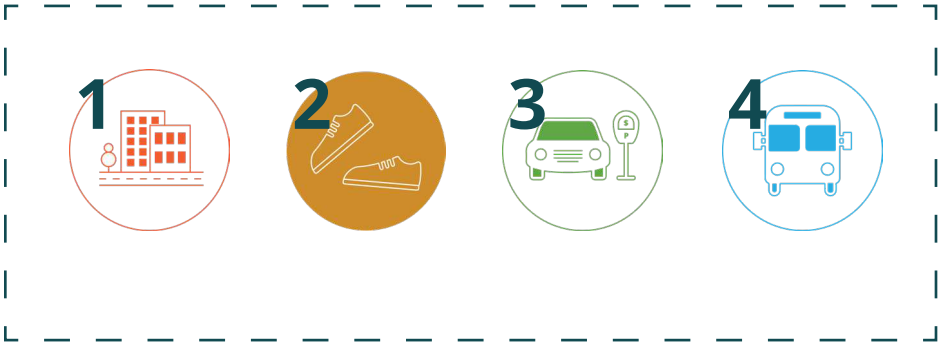
LOCAL EXAMPLES

Atglen Borough mandates a maximum building width of 50 feet in its Traditional Neighborhood Development District, established to promote TOD around Atglen's potential future train station. This is one of two zoning districts in Atglen to include this regulation (the other is its Cluster Residential District with a maximum building width of 180 feet).[74]

Lower Merion Township sets a maximum lot width of 600 feet in its Regional Center Area of the City Avenue District, with no minimum width.[75]

Figure 26: Storefronts on Narrow Lots

Note: Storefronts on narrow lots in Crested Butte, CO, create visual interest for pedestrians. Source: PedBikeImages.org / Dan Burden.



Set Pricing and Time Limits for Parking to Meet Desired Utilization

DESCRIPTION

On-street parking is useful in TOD areas; it helps to fulfill parking requirements and allow vehicular access to commercial uses. It also serves as a buffer between vehicular traffic and pedestrians and takes up less developable space than an off-street lot or parking structure might. However, given the multimodal and transit-supportive goals of TOD, parking private vehicles should not be made disproportionately more desirable than travel via transit or active transportation. Appropriate meter prices and time limits for on-street parking can help balance these desires and encourage turnover. As UCLA Professor of Urban Planning and parking researcher Donald Shoup argued, charging market price for on-street parking (the lowest price that will consistently result in one or two open spaces per city block) will benefit municipalities in several ways, including a steady stream of parking revenue that the city can invest in the public realm.[76] This approach is particularly helpful in TOD zones.

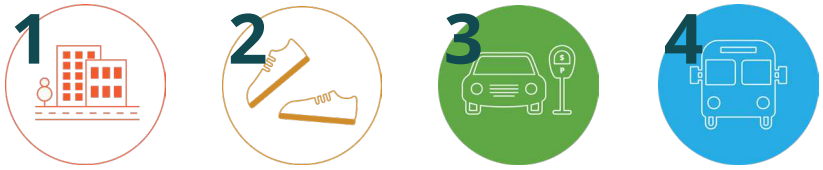
To decrease resistance to paid parking, the pricing method should be as cost-effective, fair, and convenient as possible, which could include using newer electronic pricing systems that work with multiple payment methods, charging only for the precise amount of time that a car is parked, incorporating different rates and discounts, and automatically varying rates by time of day and day of the week.[77]

LOCAL EXAMPLE

The City of Philadelphia is working on implementing a series of dynamic parking pricing pilot projects that will adjust parking meter rates based on actual parking demand with the goal of achieving one or two open spaces on a block at any given time. One of the goals of the program is to improve on-time performance for surface transit by reducing double parking.[78]

Figure 27: Paid Parking

Note: Meter station in Philadelphia. Appropriate prices and time limits for parking can help nudge visitors towards transit and other modes. Source: DVRPC (2023).



Goal 3: Reduce Vehicular Congestion and Pollution
Goal 4: Increase Transit Ridership

NATIONAL EXAMPLES

The City of Boston implemented its year-long Performance Parking Pilot in 2017. The pilot used a flexible pricing scheme to reduce congestion, increase road safety, and make parking easier in Boston's busiest neighborhoods. The City implemented a dynamic pricing model on a number of blocks in Boston's Seaport neighborhood, adjusting it every two months in order to reach an average of one to two open parking spaces on each block. The pilot resulted in a 1 percent increase in parking availability in the Seaport and a 24 percent decrease in double parking. At the same time, the City raised the hourly price of parking meters from $1.25 to $3.75 per hour for the entirety of its Back Bay neighborhood, keeping this new price constant throughout the entire pilot year. This strategy seemed to be more successful at keeping parking spaces open than that implemented in the Seaport, with an 11 percent increase in available metered parking spots in the neighborhood — but slightly less successful at reducing congestion, with a decrease in double parking of 14 percent.[79]

In 2017, Pittsburgh created a "Parking Enhancement District" in its South Side Flats neighborhood, in which it implemented stricter meter enforcement and expanded parking meters to 688 previously unmetered spaces on Fridays and Saturdays. The City has estimated that the creation of the district could generate up to $250,000 in additional parking revenue per year, which it stipulates must be used only on public safety and public works projects within the South Side Flats neighborhood.[80] This is an example of a parking benefits district (PBD), a geographical area in which the revenue from on-street parking meters is used to support transportation and public realm improvements within the district itself.

Support Transit Operations Improvements

DESCRIPTION

Transit signal priority and shifting transit stops to the far side of intersections can help to speed surface transit. Additionally, bus-only lanes not only provide a dedicated path for transit but also signal to all corridor users that transit is a priority mode. Where changes to the cartway or traffic signals are required to improve transit operations, it will be necessary for transit agencies to partner with municipalities and/or roadway owners.

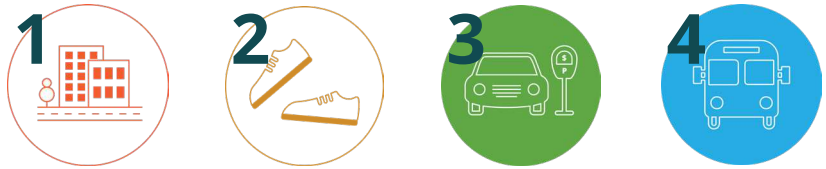
LOCAL EXAMPLE

The City of Philadelphia's Bus Priority Toolkit provides design strategies that can be used to adapt streets for bus priority, through quick-build techniques to redesign streets in the near term, as well as during capital projects.[81] The City, Pennsylvania DOT, and SEPTA piloted strategies from the toolkit on Market Street (from 15th to 20th Street) and John F. Kennedy Boulevard (from 15th to 19th Street), as well as a few other priority corridors. Beginning in August 2021, dedicated bus lanes were imprinted with white text reading "Bus Only." The pilot ran for 18 months and also included additional enforcement personnel.

An evaluation report[82] released in August 2023 found that bus speeds improved 7 percent on Market Street and 15 percent on JFK Boulevard, despite decreasing 4 percent elsewhere in Center City. Additionally, the bus lanes did not cause congestion for vehicle traffic, and most drivers complied with the new regulations. After the pilot concluded, the bus lanes were painted red to increase visibility and are intended to be permanent. In November 2023, an ordinance was passed that allows SEPTA to use window-mounted camera-based parking enforcement technology that allows buses to target illegally parked vehicles blocking transit stops and bus lanes.[83]

Figure 28: Bus Lane on a High-Frequency Bus Corridor

Note: The City of Philadelphia installed dedicated bus lanes on Market Street and has piloted various enforcement strategies to discourage drivers of private vehicles from using the bus-only lane. Source: SEPTA (2023).



Goal 3: Reduce Vehicular Congestion and Pollution
Goal 4: Increase Transit Ridership

Update Zoning to Allow for Mixed-Uses

DESCRIPTION

Mixed-use zoning allows for a range of residential, commercial, institutional, and/or industrial land uses within a single building (vertical mixed-use), district (horizontal mixed-use), or both.[84] Integration and concentration of different destinations near transit can help support ridership and reduce personal automobile dependency.

While allowing mixed-use development can help support transit ridership and increase economic vitality along corridors, developers may encounter a few difficulties, including the need to balance potentially different residential and commercial parking needs, as well as an insufficient amount of market demand to support mixed-use development.

LOCAL EXAMPLE

Lower Merion Township's Zoning Ordinance 3971 seeks to "encourage development that combines residential, institutional, and commercial uses in close proximity," in its Regional Center Area and Bala Cynwyd Retail District along City Avenue. The ordinance defines a mixed-use building as one "with one or more non-residential uses occupying a minimum of 75 percent of the Ground Floor level directly accessible from a public street or Pedestrian Way … Upper floors of the same Mixed-use building must be occupied by a different use than that of the Ground Floor …."[85]

Figure 29: Mixed-Use Development

Note: Mixed-use development in Phoenixville, PA. Source: Andrew Svekla, DVRPC (2019).

Goal 1: Increase Corridor Density and Vitality

Chapter 3: Corridors Exemplifying Transit-Supportive Land Use

Background

The DVRPC project team collaborated with SEPTA and the steering committee to select two high-frequency transit corridors that exemplify some of the transit-supportive strategies discussed in Chapter 2. The two corridors, Baltimore Avenue/Pike (Figure 30) and City Avenue (Figure 31), exemplify the type of land use mix, density, infrastructure, and supportive policies that attract robust ridership. This chapter examines the characteristics of each corridor including land use, transit service, and TOC-supportive municipal zoning codes implemented by multiple municipalities to shape development on these corridors. These interventions can be applied to other segments of SEPTA's high-frequency surface transit corridor network (see Figure 5) that are not as densely developed or where transit-supportive strategies have not been implemented yet.

Planned increases in transit frequency on Baltimore Avenue/Pike, City Avenue, and other high-frequency corridors under SEPTA's redesigned bus network (Bus Revolution) provide the opportunity to consider additional transit-supportive land uses and multimodal connections that could be implemented. Therefore, this chapter provides land use, site planning, and streetscape design recommendations that the municipalities with jurisdiction over Baltimore Avenue/Pike and City Avenue might consider including when discussing changes to comprehensive plans, updates to zoning codes, and proposals for specific development projects. These recommendations align with the four interrelated goals discussed in Chapter 2.

Figure 30: Existing Conditions Along Baltimore Avenue

Source: DVRPC (2023).

Figure 31: Existing Conditions Along City Avenue

Source: DVRPC (2023).

Baltimore Avenue/Pike

Overview

Baltimore Avenue/Pike connects Delaware County to West Philadelphia. The case study corridor extends from I-476 to South 52nd Street. There are significant differences in land use and transit service between the medium-density eastern and lower-density western ends of the corridor (see Figure 32). Overall, the combination of commercial and residential land uses along the corridor generates many trips that are currently served by bus and trolley. Proposed service changes under SEPTA's Bus Revolution will increase service frequency along much of Baltimore Avenue/Pike. This increased service frequency presents a reason and opportunity for municipalities along the corridor to continue to increase density and remediate auto-oriented development patterns on the corridor in line with SEPTA TOC planning and the municipalities' comprehensive plan goals.

Land Use and Character

The western end of the corridor is lined with commercial establishments and accompanying parking (see Figure 33). Low-density residential uses dominate the remaining land use within one-quarter mile of Baltimore Avenue/Pike. The roadway itself is wide, with two travel lanes in each direction and a center turn lane. Buildings are set far from the curb, often with parking lots that separate them from the roadway. The roadway width and setbacks provide ample space for vehicles to travel at high speeds.

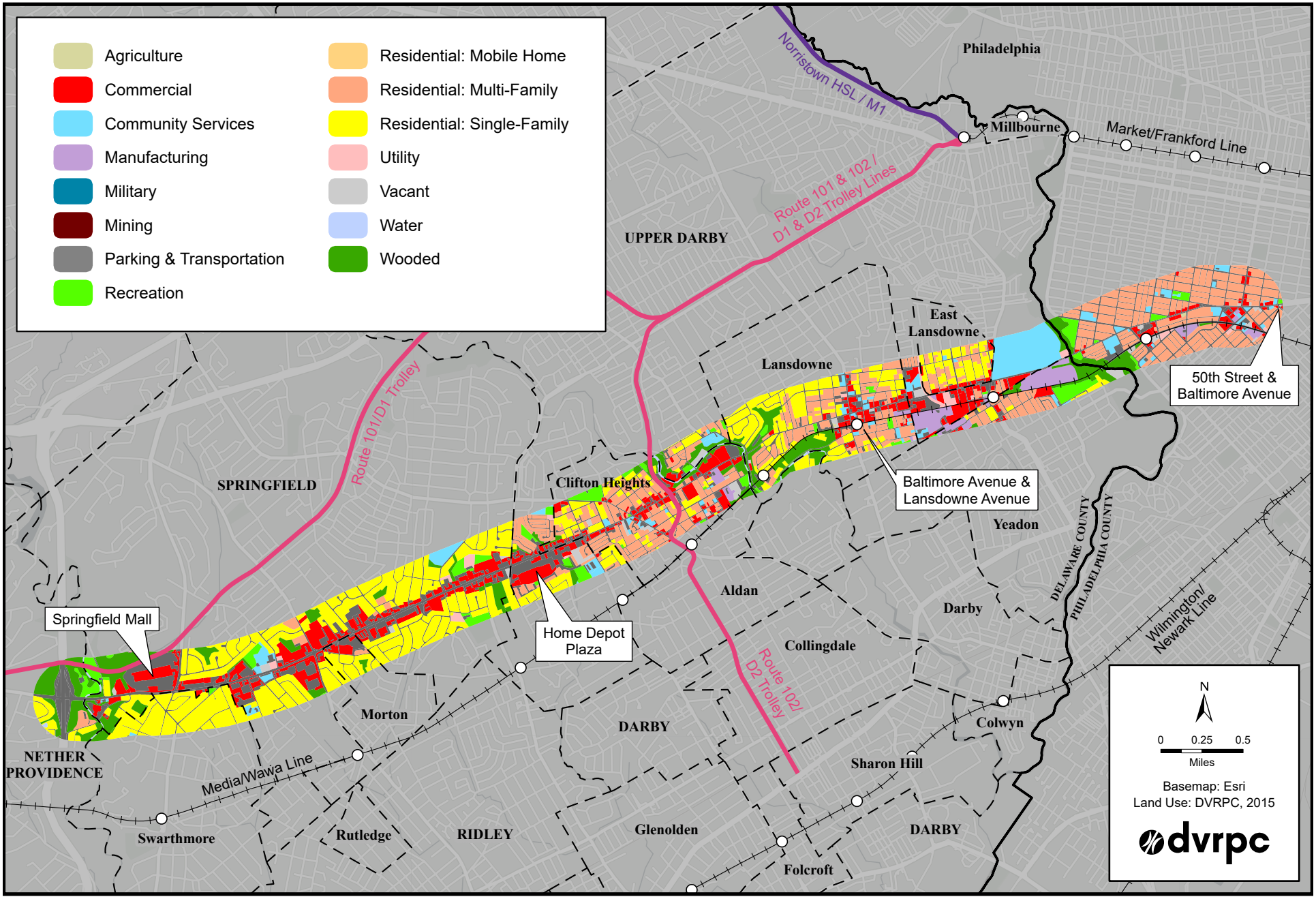
Land use patterns surrounding Baltimore Avenue change abruptly to the east of Bishop Avenue, which marks the boundary between Springfield and Upper Darby Townships. While commercial uses continue to be clustered along Baltimore Avenue, they are surrounded primarily by medium-density housing, including semi-detached and attached single-family homes and small apartment buildings.

The roadway narrows as it crosses Oak Avenue and enters Clifton Heights Borough; homes, businesses, and other establishments line the corridor. In some areas, street parking, narrow lots, and small building setbacks give Baltimore Avenue a main street feel. While there are some large shopping centers interspersed with smaller downtowns, Baltimore Avenue continues through a denser built environment as it travels through Lansdowne Borough and East Lansdowne Borough and into the City of Philadelphia.

Figure 32: Transit Stop on Baltimore Avenue

Source: DVRPC (2023).

Figure 33: Land Use Within a Quarter-Mile of Baltimore Avenue/Pike



Note: Land use within a quarter-mile of Baltimore Avenue. Specific destinations and municipal boundaries are highlighted. Source: DVRPC and SEPTA (2024).

Transit

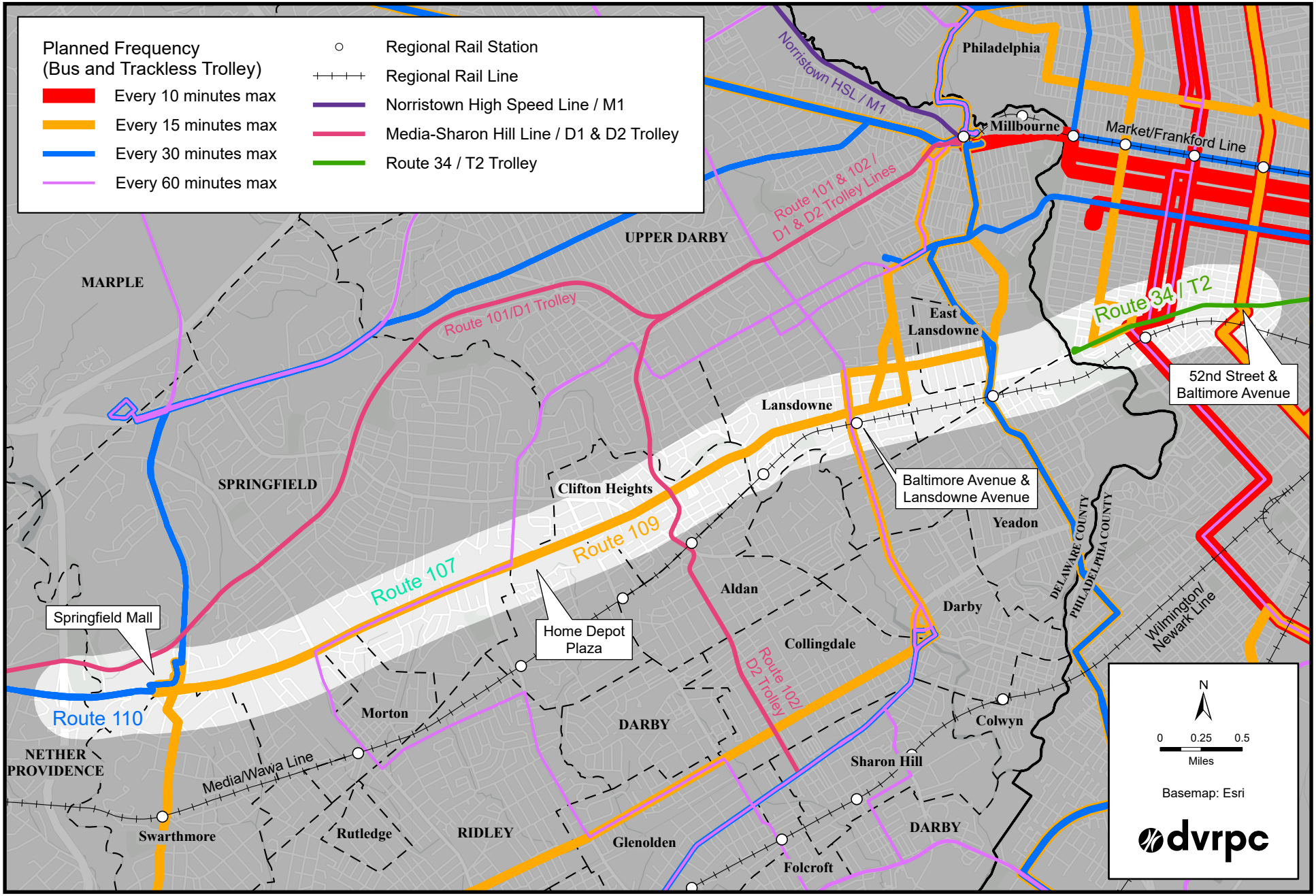
While several major transit routes cross Baltimore Avenue/Pike, two high-frequency surface routes travel along the corridor and would continue to do so if the proposed Bus Revolution network is implemented (Figure 34).

- Within the City of Philadelphia, the Route 34 Trolley (renamed T2 under SEPTA's Project Metro) connects West Philadelphia to Center City.
- In Delaware County, Bus Route 109 travels on Baltimore Avenue from the Springfield Mall to Lansdowne. SEPTA plans to increase the frequency of this route, which will run at least every 15 minutes on weekdays from 6 AM – 9 PM, Saturdays 8 AM – 9 PM, and Sundays 9 AM – 7 PM.

A third, less-frequent route (Bus Route 107) will serve Baltimore Avenue for approximately 1.3 miles between the Springfield Mall and Bishop Avenue with at least one bus per hour. As a result, that section of the corridor will be served by five buses per hour during much of the week.

Current bus and trolley service serves a daily average of 4,529 passengers boarding and 4,596 passengers alighting on Baltimore Avenue/Pike, according to SEPTA's Spring 2024 ridership statistics. Trolley and bus stops within the City of Philadelphia have the highest overall passenger activity, but bus stops located near commercial centers like the Springfield Mall and at transfer points to other lines and modes also attract significant ridership.

Figure 34: Transit Service in Baltimore Avenue/Pike Study Area



Note: Key landmarks and planned surface transit routes are labeled; for more details, visit septabusrevolution.com. Source: DVRPC and SEPTA (2024).

Zoning

Zoning codes in the municipalities that Baltimore Avenue/Pike transverses vary widely in their inclusion of the strategies outlined in Chapter 2 of this document. Table 1 on the following page summarizes zoning code provisions that permit, require, or encourage development in line with TOC-related goals. The Township of Springfield includes the far western end of the study corridor. Springfield's zoning code includes a Traditional Neighborhood Development (TND) Overlay District, an outgrowth of its 2006 joint comprehensive plan with Clifton Heights. The TND Overlay district applies to Baltimore Pike and includes many provisions compatible with TOCs, particularly in promoting mixed, pedestrian-friendly land use. Along Baltimore Pike, parking is restricted to the side or rear of a lot, buildings must be two stories tall, and developers can access height bonuses for complying with the Township's Manual of Design Guidelines. With the implementation of proposed changes to bus service and routing under SEPTA's Bus Revolution, at least four buses per hour will travel in each direction along the segment of Baltimore Avenue/Pike in Springfield. This increased service will provide more opportunities for transit riders to travel along the corridor. Springfield's existing zoning ensures that redevelopment on the corridor will be less oriented toward private automobiles and more toward pedestrians and transit riders.

Conclusion

The proposed increase in bus service frequency along the Baltimore Avenue/Pike corridor, as outlined in the SEPTA Bus Revolution plan, sets a strong foundation for the corridor to function as a TOC. This corridor already embodies TOC principles through various zoning provisions outlined in Table 1. For example, the TOD Overlay District in Lansdowne promotes increased density by offering floor area ratio bonuses for developments near transit and enhances pedestrian experiences through requirements for street trees, buffers, and pedestrian-oriented building entrances. By utilizing this guidance document and the goals and strategies outlined in Chapter 2, SEPTA and planning partners can analyze municipal zoning codes to identify existing transit-supportive strategies and opportunities to implement additional, complementary strategies. See below for an example of this analysis.

- **City of Philadelphia:** The City might focus on zoning that , because their existing codes already have references to increasing density and vitality (Goal 1), reducing vehicular congestion (Goal 3), and increasing transit ridership (Goal 4). For example, in addition to prohibiting curb cuts in transit areas, the City could consider strategies to provide wide sidewalks and activate the streetscape to increase safe and enjoyable walking routes to transit.
- **Lansdowne Borough:** Of the 10 TOD Overlay District strategies identified in Table 1, only one addresses the reduction of vehicular congestion (Goal 3). The existing strategies in the TOD Overlay District aim to increase density and create more vibrant and comfortable pedestrian environments. Implementing parking management strategies like shared parking arrangements and appropriately pricing on-street parking can reduce single occupancy vehicle trips and the need to build new parking spaces.
- **Clifton Heights Borough:** The Borough might focus on zoning that increases density and vitality (Goal 1) and transit ridership (Goal 4), as their existing codes already have references to and reducing vehicular congestion (Goal 3). For example, in addition to requiring traffic studies for large developments, the Borough could consider implementing strategies to support transit operation improvements to reduce delays for transit vehicles.
- **Springfield Township:** The Township might focus on zoning that , as their existing codes already reference the other goals. For example, in addition to increasing density of existing uses through minimum building heights and availability of height bonuses, the Township could require and provide wide sidewalks to make walking to transit stops and nearby destinations more attractive and comfortable.

Table 1: Relevant Municipal Zoning Code Provisions in Baltimore Avenue/Pike Study Area

Municipality	Relevant Overlay	Tactic	Municipal Zoning Code Provision	Applicable TOC-Supportive Strategy
City of Philadelphia	n/a	Prohibit	Curb cuts in transit platform areas (§ 11-104)	Add Access Management Requirements to Local Ordinances
		Incentivize	Floor area ratio or building height bonuses for including transit agency-approved, transit-related improvements in areas zoned CMX-3, CMX-4, and CMX-5 (§14-702 (8))	Encourage Direct Transit Benefits Through Bonuses
		Permit	Accessory dwelling units (ADUs) (§ 14-604(11))	Permit ADUs
Lansdowne Borough	TOD Overlay District (§3 30-18)	Prohibit	Setback beyond maximum	Reduce Building Setbacks
			New curb cuts when alternative access points are available	Add Access Management Requirements to Local Ordinances
			Blank walls for nonresidential buildings facing street, parking area, or walking area	Activate the Streetscape
		Require	Pedestrian pathways	Require Pedestrian Pathways
			Building entrances oriented toward pedestrians	Require Pedestrian Pathways; Activate Streetscape
			Minimum building height	Increase Density of Existing Uses
			Minimum streetscape design standards	Activate the Streetscape
			Street trees, buffers, and landscaping	Activate the Streetscape; Require Planting Strips and Pedestrian Buffers
		Incentivize	Floor area ratio bonus for location near a transit facility	Encourage Direct Transit Benefits Through Bonuses
		Permit	A high percentage of impervious coverage	Increase Allowed Impervious Coverage
Clifton Heights Borough	n/a	Prohibit	Parking at the front of structures (§3 40-44)	Encourage Rear and Side Parking
		Require	Traffic studies for large developments to include impact on transit (§3 00-8)	Prioritize Multimodal Improvements in Proposed Developments
		Permit	Shared parking areas when uses are complementary with different peak parking times (§340-68 (C))	Allow and Encourage Shared Parking

Note: Table continued on the following page.

Municipality	Relevant Overlay	Tactic	Municipal Zoning Code Provision	Applicable TOC-Supportive Strategy
Springfield Township	Traditional Neighborhood Development Overlay District (§1 43-89 (B))	Prohibit	Vehicular parking within 20 feet of lot line	Encourage Rear and Side Parking
		Require	Minimum building height	Increase Density of Existing Uses
		Incentivize	Height bonuses for providing streetscape elements per the Manual of Design Guidelines, keeping front yard setback below a maximum, and locating parking at the rear or side of a new development	Increase Density of Existing Uses

Note: The above zoning code provisions are meant to be illustrative of TOC-supportive strategies (see Chapter 2) implemented in communities along the City Avenue study corridor. Some zoning requirements are restricted to certain base districts. Please see the municipalities' respective zoning codes for details about applicability and requirements when considering implementation in other communities. Source: DVRPC (2024).

City Avenue

Overview

City Avenue/Township Line Road, as its name implies, serves as a border between municipalities. The case study corridor extends from Lansdowne Avenue/Darby Road to I-76 (see Figure 35 for a photo taken along the corridor). On the western edge of the study corridor, Township Line Road divides Haverford Township to the north from Upper Darby Township to the south. Much of the corridor, including its densest, easternmost portion, forms the border between Lower Merion Township and the City of Philadelphia. The City Avenue Special Services District (City Avenue District) is managed by both City of Philadelphia and Lower Merion Township, as part of a partnership formed in 1999 between the municipalities. This unique partnership provides additional staff that oversees City Avenue's commercial offerings, office buildings, educational and medical institutions, and apartment buildings, in addition to programming. These destinations are well-served by the corridor's high-frequency surface transit.

Figure 35: Bicycle Fix-It Station Along City Avenue

Source: DVRPC (2023).

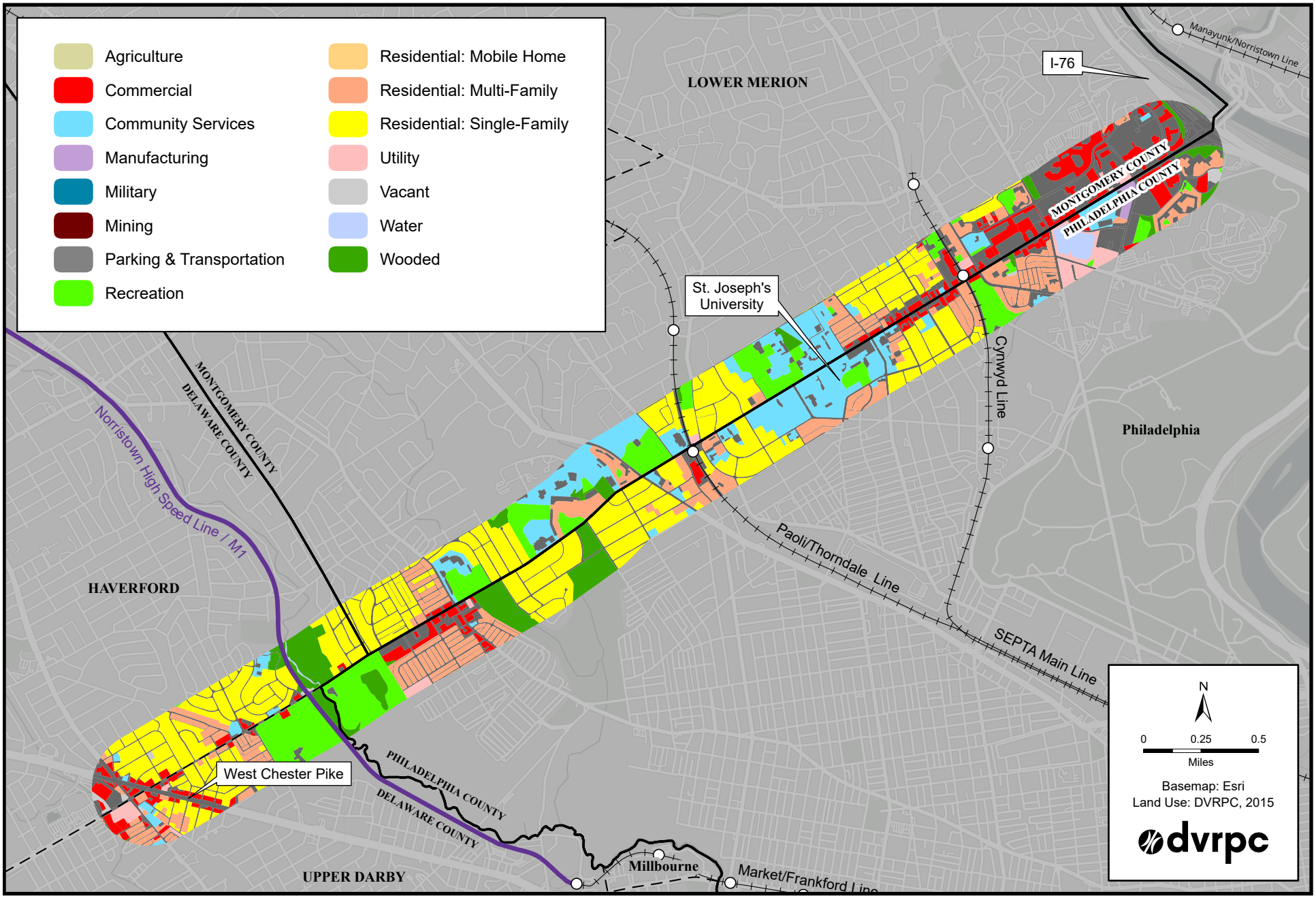
Land Use and Character

The eastern end of the corridor intersects with I-76 (see Figure 36). Along this stretch of City Avenue, high-rise apartment towers and multi-story office complexes are mixed with shopping malls and plazas. Drivers using the corridor to access local destinations and those who are heading to the highway mix at high speeds.

The combination of residential and commercial activity directly abutting City Avenue continues west of the Bala Regional Rail station, but the density of the housing within a quarter mile of City Avenue becomes primarily single-family. However, there are also a few clusters of medium- to high-density housing options near commercial and transit centers, including the City Avenue Shopping Center and Township Line Road Regional Rail Station. Several institutional uses, including St. Joseph's University and healthcare facilities, serve as additional destinations for employees, students, patients, and visitors.

Sidewalks are available along most of the corridor, but there are gaps west of the Montgomery County line. There is very little or no buffer between the sidewalk and the roadway for most of the corridor.

Figure 36: Land Use Within a Quarter-Mile of City Avenue



Note: Land use within a quarter-mile of City Avenue. Specific destinations and municipal boundaries are highlighted. Source: DVRPC and SEPTA (2024).

Transit

Bus service currently connects the eastern portion of the corridor from Overbrook Station to I-76 with headways of 30 minutes or less (see Figure 37). Frequency of this route would increase with the implementation of Bus Revolution (see Figure 38). West of Overbrook Station, Bus Route 126 will traverse City Avenue from North 77th Street past the western boundary of the study area with 60-minute or shorter headways.

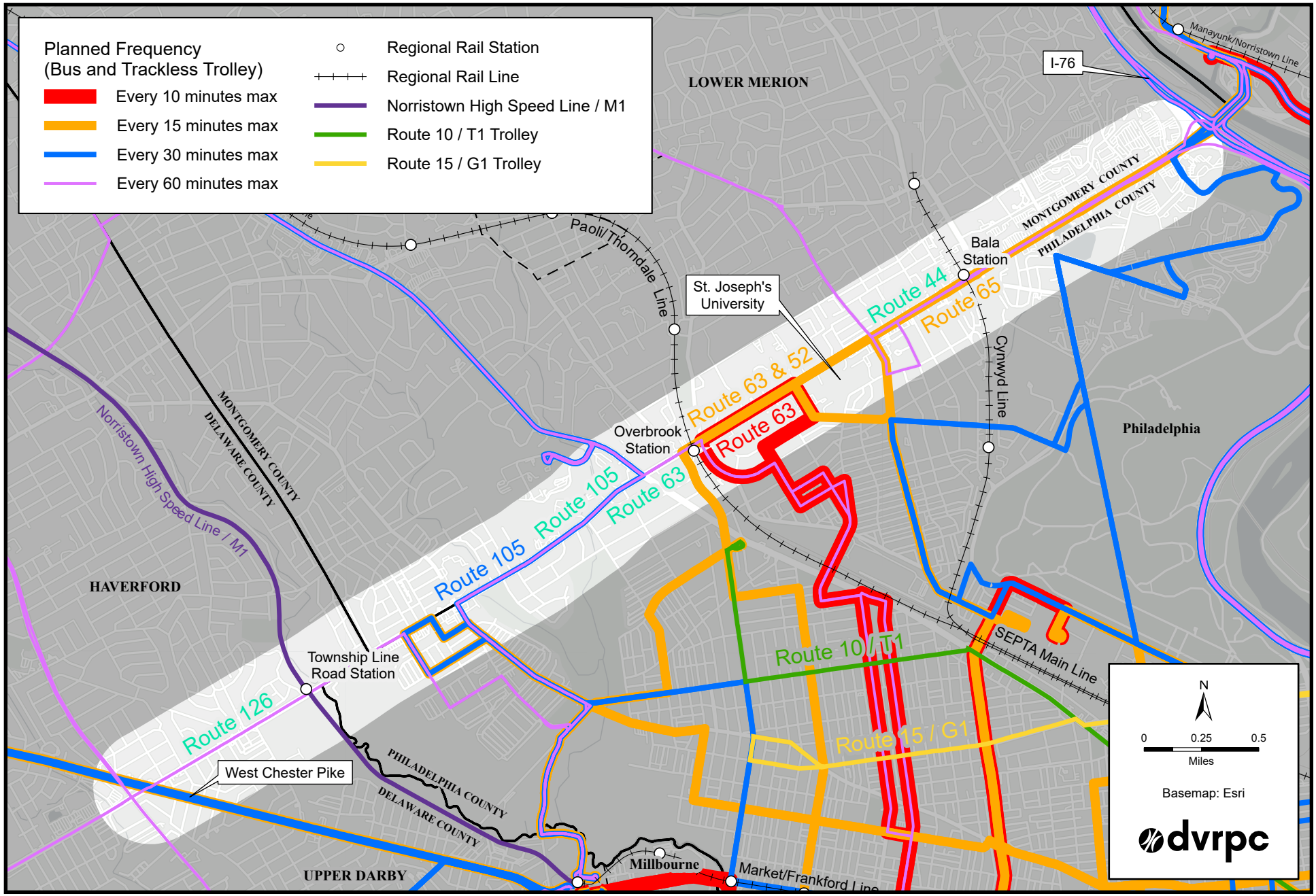
Additional transit routes cross the corridor, contributing to its connectivity. Bus routes 63 and 105 will travel shorter segments of City Avenue between Overbrook Station and 77th Street and connect to destinations like the 69th Street Transportation Center; West, Southwest, and South Philadelphia; and Lankenau Medical Center. Regional Rail service at Township Line Station on the Norristown High Speed Line, Overbrook Station on the Paoli/Thorndale Line, and Bala Station on the Cynwyd Line provides additional regional connectivity.

With current bus service, an average of 2,506 passengers board and 2,766 alight buses at the 136 stops along City Avenue according to SEPTA's Spring 2024 weekday statistics. Passenger activity is heaviest near high-density residential areas, shopping plazas, and transfer points to other modes.

Figure 37: Transit Use Along City Avenue

Source: DVRPC (2023).

Figure 38: Transit Service in City Avenue Study Area



Note: Key landmarks and planned surface transit routes are labeled; for more details, visit septabusrevolution.com. Source: DVRPC and SEPTA (2024).

Zoning

Municipalities bordering the western portion of City Avenue also have zoning codes with relevant provisions that support TOCs along this portion of the corridor by making it more pedestrian- and transit-friendly (see Table 2 on the following page). Their zoning codes outline goals for the corridor that focus on enhancing the pedestrian and transit experience, reducing on-street congestion, encouraging increased density and a mix of uses, and discouraging auto dependence.

Municipalities' continued focus on changes to the built environment that improve the pedestrian experience and reduce auto dependency will, in turn, contribute to increased transit use within the corridor and beyond. Planned increased frequency for the transit routes that serve the eastern portion of the City Avenue corridor when Bus Revolution is implemented will provide the opportunity to consider additional transit-supportive land uses and multimodal connections that could be implemented.

Table 2: Relevant Municipal Zoning Code Provisions in City Avenue Study Area

Municipality	Relevant Overlay	Tactic	Municipal Zoning Code Provision	Applicable TOC-Supportive Strategy
City of Philadelphia	n/a	Prohibit	Curb cuts in transit platform areas (§ 11-104)	Add Access Management Requirements to Local Ordinances
		Incentivize	Floor area ratio or building height bonuses for including SEPTA-approved, transit-related improvements in areas zoned CMX-3, CMX-4, and CMX-5 (§14-702 (8))	Encourage Direct Transit Benefits Through Bonuses
	City Avenue Overlay District (§ 14-509)	Prohibit	Setbacks or parking above maximum	Reduce Building Setbacks, Reduce Parking Minimums, Set Parking Maximums
			Parking and driveways between building and front lot line	Encourage Rear and Side Parking
			Curb cuts on City Avenue if lot is bounded by another street	Add Access Management Requirements to Local Ordinances
			More than one curb cut per lot	Add Access Management Requirements to Local Ordinances
			Drivethroughs	Add Access Management Requirements to Local Ordinances
		Require	Carshare parking spaces	Provide Safe Multimodal Facilities and Associated Infrastructure
			Planting and maintaining street trees	Require Planting Strips and Pedestrian Buffers, Activate the Streetscape
			Public walkways	Require Pedestrian Pathways

Note: Table continued on the following page.

Municipality	Relevant Overlay	Tactic	Municipal Zoning Code Provision	Applicable TOC-Supportive Strategy
Lower Merion Township	City Avenue District: Regional Center Area (§ 155-6.6), Bala Cynwyd Retail Area (§ 155-6.7), Bala Village Area (§ 155-6.8)	Prohibit	Lot width greater than maximum	Set Maximum Lot Width
			More than one curb cut per frontage per lot	Add Access Management Requirements to Local Ordinances
			Build-to line farther from curb than maximum	Reduce Building Setbacks
			Parking, driveways, loading zones at front of structures	Encourage Rear and Side Parking; Implement Off-Street Loading Zones
			Residential ground floor uses	Activate the Streetscape
		Require	Pedestrian pathways	Require Pedestrian Pathways
			Minimum building height	Increase Density of Existing Uses
			Shared driveways and parking lots when possible	Allow and Encourage Shared Parking
			Car share parking spaces	Provide Residential Transit Pass and Shared Mobility Incentives
			Active ground-floor uses	Activate the Streetscape
		Incentivize	Floor area ratio or impervious surface bonuses for mixed-use buildings	Increase Density of Existing Uses; Increase Allowed Impervious Coverage
			Floor area ratio bonuses for transit facility improvements and public pathways	Encourage Direct Transit Benefits Through Bonuses
	City Avenue District: Bala Village Area (§ 155-6.8)	Require	Public walkways with buffer separating from curbline	Require Planting Strips and Pedestrian Buffers
Upper Darby Township	n/a	Require	Parking and loading areas limited to rear of structures (§ 550-33)	Encourage Rear and Side Parking
			Principal entrances accessible from public sidewalk (§ 550-21)	Activate the Streetscape; Require Pedestrian Pathways
		Incentivize	Reductions in required parking for proximity and safe pedestrian access to a transit stop (§ 550-33)	Provide Safe Multimodal Facilities
		Permit	Shared parking areas when uses have different peak parking times (§ 550-33)	Allow and Encourage Shared Parking

Note: The above zoning code provisions are meant to be illustrative of TOC-supportive strategies (see Chapter 2) implemented in communities along the City Avenue study corridor. Some zoning requirements are restricted to certain base districts. Please see the municipalities' respective zoning codes for details about applicability and requirements when considering implementation in other communities. Source: DVRPC (2024).

Conclusion

City Avenue has a wealth of destinations along the corridor, including commercial offerings, office buildings, educational and medical institutions, and apartment buildings. When paired with the corridor's high-frequency surface transit and planned service upgrades through the SEPTA Bus Revolution plan, City Avenue could serve as a key TOC. Existing zoning code provisions in the City Avenue study area already support TOC principles, as seen in Table 2 on the previous page. As a whole, there are incentives to increase density, activate the streetscape, and strengthen pedestrian connections to transit.

By utilizing this guidance document and the goals and strategies outlined in Chapter 2, SEPTA and planning partners can analyze municipal zoning codes to identify existing transit-supportive strategies and opportunities to implement additional, complementary strategies. See below for an example of this analysis.

- **City of Philadelphia:** Outside of the City Avenue District, the City might focus on zoning that increases density and vitality (Goal 1) and , because their existing codes already have references to reducing vehicular congestion (Goal 3) by incentivizing height bonuses and increasing transit ridership (Goal 4) by prohibiting curb cuts. This area may benefit from activation of the streetscape and investment in multimodal facilities. Within the District, there are many TOC strategies in place that span all goal categories. The strategies focus on managing access, promoting sidewalk connectivity, and activating the streetscape. The City could build upon the existing strategies by supporting transit operations improvements or exploring transit pass incentives.
- **Lower Merion Township:** The zoning code for areas within the City Avenue District are comprehensive and include TOC strategies from each of the four goal categories. Strategies include establishing minimum building heights, adding access management requirements, and establishing parking strategies (shared parking, dedicated car-share parking spaces). , as well as supporting transit operations improvements (Goal 3), could further solidify City Avenue's status as a TOC.
- **Upper Darby Township:** The zoning code includes TOC strategies in each goal category. By encouraging rear and side parking, activating the streetscape, and allowing shared parking arrangements, this area of the corridor is supporting pedestrian-friendly environments. It could be beneficial to explore additional strategies to increase density and vitality (Goal 1) and transit ridership (Goal 4), like increasing density of existing uses or encouraging direct transit benefits through bonuses.

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Appendices

Appendix A: Corridor Identification and Sample Location Selection Methodology

High-Frequency Network Identification

The DVRPC project team used a GIS application to determine which roadways were considered part of the high-frequency network for the purpose of this study. In collaboration with SEPTA, the project team performed the following analysis to determine which roadways met all of the following criteria:

- at least one mile long
- outside of Center City Philadelphia (which was defined as south of Spring Garden Street and north of Washington Avenue, between the Delaware and Schuylkill Rivers)
- served by high-frequency surface transit

High-frequency surface transit was defined as all trolley service and planned bus service after the implementation of SEPTA's bus network redesign, Bus Revolution, that will meet certain frequency criteria:

- at least one bus route with maximum headways of 10 minutes or less
- within the City of Philadelphia, one bus route with maximum headways of 15 minutes or less and another bus route with maximum headways of 30 minutes or less
- outside of the City of Philadelphia, at least one bus route with maximum headways of 15 minutes or less

Using the SEPTA Bus Revolution shapefile data finalized by SEPTA in April 2024, planned bus routes were grouped based on their anticipated maximum headways on weekdays 6 AM – 9 PM, Saturdays 8 AM – 9 PM, and Sundays 9 AM – 7 PM. These layers were buffered and overlaid to isolate the roadways that met the above criteria. Roadway segments were clipped from the Pennsylvania Centerline and Philadelphia Complete Streets datasets. In Philadelphia, roadway segments were merged based on name and complete streets typology. Outside of Philadelphia, where that information was not available, roadway segments were merged based on name only. Selected roadways were merged into the final high-frequency network layer.

High-Frequency Nodes

SEPTA requested the identification of high-frequency "nodes," where high-frequency and high-capacity transit services intersect and create transfer opportunities. Nodes include Regional Rail, MFL, BSL, and NHSL stops located within 150 feet of the high-frequency network. They also include intersections of corridors within the high-frequency network where at least two different bus, trolley, or trackless trolley lines cross.

The project team used GIS software to select Regional Rail, MFL, BSL, and NHSL stops that intersect with the high-frequency network, then manually removed duplicates (e.g., eastbound and westbound MFL stops). Similarly, the high-frequency network layer was buffered and then intersected with itself; the resulting points layer included four points at each intersection and so was manually corrected to include only one. These nodes were provided to SEPTA for future use when directing its advocacy and property ownership decisions to the areas most able to support increases in ridership.

Sample Corridor Selection Methodology

The process of selecting sample corridors included several phases, which are outlined below.

1. FIND SUITABLE CORRIDORS

The DVRPC team selected relevant criteria to find most suited locations in a GIS analysis. The criteria were:

- frequent headways
- "corridor" delineated by complete street type/functional class and name
- Greater than one mile in length
- High ridership (ons and offs)
- Greater percentage of on-time departures (bus only)

2. FEEDBACK FROM SEPTA

DVRPC met with SEPTA to go over analysis and the resultant corridors. SEPTA agreed with the analysis, helped refine it, and provided the following additional corridor criteria:

- the corridor includes a variety of land uses and density patterns, as well as a mix of employment centers and residential areas
- the corridor is home to and employs a racially and economically diverse population reflective of the region
- the corridor is served by multiple modes of transit, including but not limited to high-frequency surface routes
- the corridor crosses multiple jurisdictions with distinct zoning codes

Four corridors fit the above criteria.

3. GATHER INFORMATION

DVRPC collected existing conditions data for each corridor related to the established criteria, including location and jurisdictions, land use and density, racial and economic diversity, existing and planned transit service, and other key characteristics.

4. FEEDBACK FROM SEPTA AND THE STEERING COMMITTEE.

DVRPC and SEPTA shared the data collected and the process with the Steering committee. One primary piece of feedback received was to add City Avenue as a potential case study corridor. Advisory Committee members shared additional details and context for the proposed corridors.

5. USE FEEDBACK TO NARROW DOWN TO TWO CASE STUDY CORRIDORS.

The two corridors selected for further study were: Baltimore Avenue/Pike from 52nd Street to Interstate 476 and City Avenue from Presidential Blvd to West Chester Pike (PA3). These were selected primarily for their diversity of land use types.

Appendix B: Additional Resources

To complement the information provided in this study, DVRPC provided SEPTA with the following geospatial data:

- high-frequency network
- passenger boarding and alighting data for current transit service on each corridor in the high-frequency network
- land use within a quarter-mile of the high-frequency network
- low-density land use within a quarter-mile of the high-frequency network
- census data for census blocks adjacent to the high-frequency network
- “nodes“ representing intersections of high-frequency corridors and with high-capacity rail transit service

Strategic Planning for SEPTA Surface Transit Corridors

PUBLICATION NUMBER
23143

DATE PUBLISHED
March 2025

GEOGRAPHIC AREA COVERED
Chester County, Bucks County, Delaware County, Montgomery County, Philadelphia County, Pennsylvania

KEY WORDS
SEPTA, Southeastern Pennsylvania Transportation Authority, surface transit, bus, trackless trolley, trolley, transit-oriented development, TOD, transit oriented communities, TOC, transit-supportive, high-frequency corridor, land use, density, economic development, policy, infrastructure, development

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ABSTRACT
This document provides land use, site planning, and streetscape design strategies that SEPTA and planning partners can reference when discussing transit-supportive changes to local plans, zoning codes, and property development. Strategies focus on surface transit corridors, as 63 percent of Southeastern Pennsylvania Transportation Authority (SEPTA) customers travel by bus, trackless trolley, and trolley. There are 72 corridors in the SEPTA service area with existing or planned high-frequency surface transit, making them excellent targets for the development of transit oriented communities (TOCs), where transit supports the vitality of the surrounding area. Developing TOCs along these corridors can support the goals identified by SEPTA and the project steering committee: increase corridor density and vitality, prioritize multimodal access, reduce vehicular congestion (for improved transit operations) and pollution, and increase transit ridership. This report contains strategies that can support advancement toward these goals and provides two examples of high-frequency surface transit corridors in which transit supports dense development patterns.

ACKNOWLEDGMENTS
DVRPC collaborated with the following project Steering committee members:

- Jennifer Dougherty: *Manager of Long Range Planning, SEPTA*
- Kenneth Starr: *Manager, Joint Real Estate Development, SEPTA*
- Daniel Nemiroff: *Director of Service Planning (City Transit & Metro), SEPTA*
- Alex Sankaran: *Planner II, Chester County Planning Commission*
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- Christopher Patriarca: *Senior Community Planner, Chester County*
- Corey Bell: *Senior Planner, Special Projects, City of Philadelphia*
- Laura Spina: *former Director of Community and Comprehensive Planning, City of Philadelphia*
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DVRPC's vision for the Greater Philadelphia Region is a prosperous, innovative, equitable, resilient, and sustainable region that increases mobility choices by investing in a safe and modern transportation system; that protects and preserves our natural resources while creating healthy communities; and that fosters greater opportunities for all.

DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. We are engaged across the region, and strive to be leaders and innovators, exploring new ideas and creating best practices.

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