

Bethesda

Downtown Plan Design Guidelines

community
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equity

habitat +
health

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water

energy



Approved July 2017

THE MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION



Abstract

The Bethesda Downtown Plan Design Guidelines amend the Urban Design Guidelines included in the approved and adopted 1994 Bethesda CBD Sector Plan and the 2006 Woodmont Triangle Amendment to the Sector Plan for the Bethesda CBD.

This document will be used to guide the design of buildings and public spaces towards achieving the Bethesda Downtown Sector Plan vision for a truly sustainable downtown. The guidelines are based on existing conditions analysis, stakeholder input and current best practices in urban design from the region and beyond. Design guidelines help provide information about how plan recommendations and zoning code requirements can be met, and the area or district context for individual sites. Design guidelines are approved by the Montgomery County Planning Board for use by public entities and developers in preparing design proposals, and planners and the Board in reviewing them. These guidelines may need to be reviewed and updated by the Planning Board as best practices and conditions in the downtown evolve over time.

Sources of Copies

The Montgomery County Planning Department
The Maryland-National Capital Park and Planning Commission
8787 Georgia Avenue
Silver Spring, MD 20910

Online at montgomeryplanning.org/planning/communities/area-1/bethesda-Downtown-plan

Bethesda

Downtown Plan

Design Guidelines

Prepared by the Montgomery County Planning Department
MontgomeryPlanning.org

Approved July 2017

THE MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION



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Chapter 1: Introduction

1.1 Urban Design Principles

Fostering design excellence is becoming increasingly important as the amount of available land for development in Montgomery County is shrinking and building density is increasing in communities like Bethesda. These challenges present a greater need than in the past to create and enhance neighborhoods that are active, walkable and focused around a high quality public realm of pedestrian-oriented streets and lively public and privately owned spaces, all framed by distinguished buildings and landscapes.

A Truly Sustainable Downtown

The Urban Design Principles outlined below align with the six sustainability performance areas described in the Bethesda Downtown Sector Plan. Performance Areas are quantifiable ways to identify, integrate and measure a community's sustainability. Each have associated goals to help determine the design priorities in Bethesda that will create a truly sustainable Downtown that is economically, environmentally and socially viable.

community
identity



Community Identity

Reflect and enhance the distinct character of Bethesda's existing neighborhoods and centers of activity, while providing opportunities for innovation.

equity



Equity

Create an inviting public realm and provide a mix of inclusive housing options to improve quality of life for residents of all incomes, ages and abilities.

habitat +
health



Habitat + Health

Improve community health and environmental quality through increased public green spaces and landscapes designed to enhance habitat connectivity.

Economics and Design Excellence

The Metropolitan Washington Council of Governments' 2014 report, *Place + Opportunity Strategies for Creating Great Communities and a Stronger Region*, argues that urban centers in our region, like Downtown Bethesda, "have the highest market potential, and the most opportunity to push the market into creating better design and providing additional parks." By maximizing the market potential of Downtown Bethesda through the implementation of best practices in urban design, the livability and attractiveness of the area will continue to grow. This improved quality of life will help to increase demand for housing, attract new businesses and workers, and bolster existing local businesses.

Environmentally Sustainable Design

As a compact urban core rich with transit, jobs and housing opportunities, Downtown Bethesda is helping to lead the county towards a more sustainable future less reliant on fossil fuels. The implementation of environmentally sustainable design practices in public improvements and private development will continue to advance Bethesda toward meeting county carbon reduction targets and leading the way on strategies to comprehensively improve the urban ecosystem.

Socially Inclusive Design

Many factors contribute to the creation of a vibrant, safe and healthy community. Bethesda has a strong foundation of characteristics that contributes to the livability of the downtown, including proximity to transit, job opportunities, walkability and a mix of uses. Building on this foundation, Bethesda must also strive to be more inclusive and equitable for people of all incomes, ages and abilities. Urban design can play a role in working to achieve this goal by further improving public spaces and connectivity, as well as creating quality living, learning, working and play environments that fulfill the needs of a diverse population.

access +
mobility



Access + Mobility

Develop a well-connected network of walkable and bikeable streets, trails and open spaces accessible to all users.

water



Water

Incorporate water conservation and stormwater treatment measures throughout the design of the public and private realm.

energy



Energy

Integrate energy-efficient design to address climate change and create healthier living and working environments.

1.2 How to Use the Guidelines

Purpose

One of the main goals of the Bethesda Downtown Sector Plan is to achieve design excellence. Design guidelines are important to any sector plan's implementation, but are crucial in Downtown Bethesda due to several factors, including the scale of future development, the importance of ensuring appropriate relationships between buildings and the pedestrian realm, and the proximity of lower-scale residential neighborhoods.

Given the availability of density from a variety of sources in Downtown Bethesda, it is ultimately the combination of building height limits and the design guidelines that is expected to be a more predictable tool than Floor Area Ratio (FAR) to control the shape of future buildings and public spaces. Guidelines may, therefore, serve to limit the amount of density that can be built on a site. However, because of their importance to achieving the planning goals of Downtown Bethesda, these guidelines should be met even where it may not be possible for a site to be developed to its maximum theoretical density.

These guidelines will ensure compatibility of new development with neighboring communities and enhance the quality of life for all residents in the area, including those inside and outside the downtown. The surrounding communities are not separate from downtown Bethesda, but closely connected to it. Therefore, the guidelines are intended to maintain and enhance the urban to neighborhood connections in a compatible way that will be successful for Downtown Bethesda and the surrounding communities.

Applicability

This document should be used in conjunction with the Sector Plan recommendations and Streetscape Standards to guide development projects and public space improvements within the Downtown Bethesda Sector Plan Area. In particular, per the Zoning Ordinance, all Commercial/Residential Zone Standard Method and Optional Method projects under Site Plan review should substantially conform with the Sector Plan and Design Guidelines.

Guidelines Flexibility

The Planning Board may approve alternative design approaches that better meet the intent of the design guidelines. This review flexibility will allow room for truly exceptional and unexpected creative solutions to improve the downtown.

Certain guidelines provide a range of recommended dimensions to appropriately meet the intent. These ranges are not rigid requirements but instead provide more predictability for applicants as to what will be expected during development review, and provide staff and the Planning Board with a framework to guide the review process. Unless dimensions are specifically recommended in the Sector Plan, guidelines that include dimensions also outline opportunities for alternative design solutions to meet the intent of the guidelines. These alternatives address constrained sites and buildings of moderate height.

Meeting the recommended dimensions in the guidelines does not ensure approval. Design proposals and alternative solutions will be evaluated during the development review process based on the surrounding context, site conditions, and how the project meets the Sector Plan goals and Design Guidelines intent.

Design Advisory Panel

Based on direction from the County Council during its review of the Bethesda Downtown Sector Plan and the subsequent Bethesda Overlay Zone, the Montgomery County Planning Department is creating a Design Advisory Panel (DAP) to review and provide direction to the Planning Director and staff on Bethesda development applications submitted to the Planning Department.

The goals of the DAP are to ensure the highest quality design for the planned and built environment, assist in resolving issues that arise in the regulatory process where urban design principles conflict with other county regulations by providing review and discussion earlier in the process, and prioritize the allocation of

the CR public benefit points in the CR Guidelines and the Bethesda Downtown Plan.

The DAP will be guided by the Bethesda Downtown Sector Plan, the Bethesda Downtown Design Guidelines, the Bethesda Overlay Zone and the CR Zone criteria for granting density incentives for exceptional design.

There are three types of projects that may be developed in Bethesda: Standard Method projects, Optional Method Projects utilizing mapped density only and Optional Method projects utilizing additional density through the Bethesda Overlay Zone. Though Standard Method projects under Site Plan review are not required to go to the DAP, it is highly recommended that these projects meet with the panel.

All Optional Method projects will be presented to the DAP and review staff. Developers are strongly encouraged to go through the Concept Plan process, and will have an opportunity to meet with the DAP at Concept Plan submission. Even if there is no Concept Plan, the applicant will be required to meet with the DAP to review their project early in the process.

In order for projects to be considered for additional density from the Bethesda Overlay Zone, the development design team will have to meet with staff and the DAP early on to review point allocations and to assess urban and architectural design implications.

Projects including 25 percent or more MPDUs provide an important public benefit and should be expedited through the DAP and development review process to the greatest extent possible.

For Development Projects

1. Street Types

See Section 2.1 Street Types to determine which Street Type your property fronts. This section outlines the building placement and building form guidelines by Street Type.



2. Site and Building Guidelines

See Section 2.3 Site Design and 2.4 Building Form for general site layout and building form guidelines for development projects.



3. Guidelines for Key Sites

See Chapter 3: Districts for site-specific guidelines organized by district. These guidelines outline recommended circulation, open space design and building form for key sites in each district.

For Public Space Improvements

1. Parks and Open Space Guidelines

See Section 2.2 Parks and Open Space for general open space guidelines organized by type.



2. Guidelines for Key Sites

See Chapter 3: Districts for site-specific guidelines organized by district. These guidelines outline recommended circulation and open space design for key sites in each district.

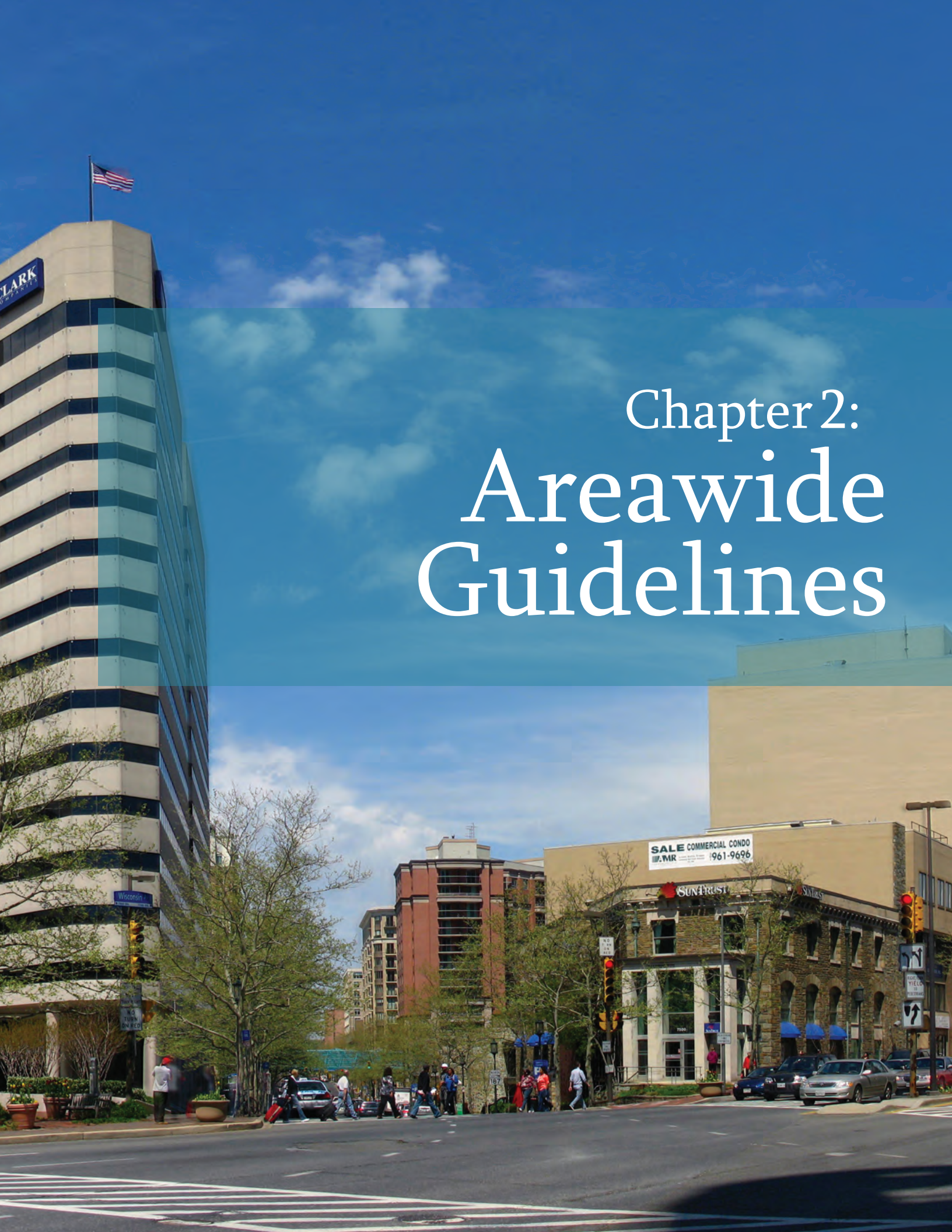


3. Streetscape Standards

See the Bethesda Streetscape Standards document for detailed standards for sidewalk paving, plantings and furnishings.

*Note: Graphics, renderings and photos throughout the document show possible ways in which the Bethesda Downtown Sector Plan recommendations and design guidelines can be achieved. They are **for illustrative purposes only**.*





Chapter 2: Areawide Guidelines

2.1 Street Types

2.1.1 Street Types Overview

Buildings are the vertical faces of streets and, together with well-designed sidewalks, are crucial to creating an inviting environment for pedestrians to walk, gather, shop and experience downtown neighborhoods. As Bethesda grows with infill development at greater heights and densities, streetscape guidelines will ensure a strong pedestrian character with sufficient sidewalk widths.

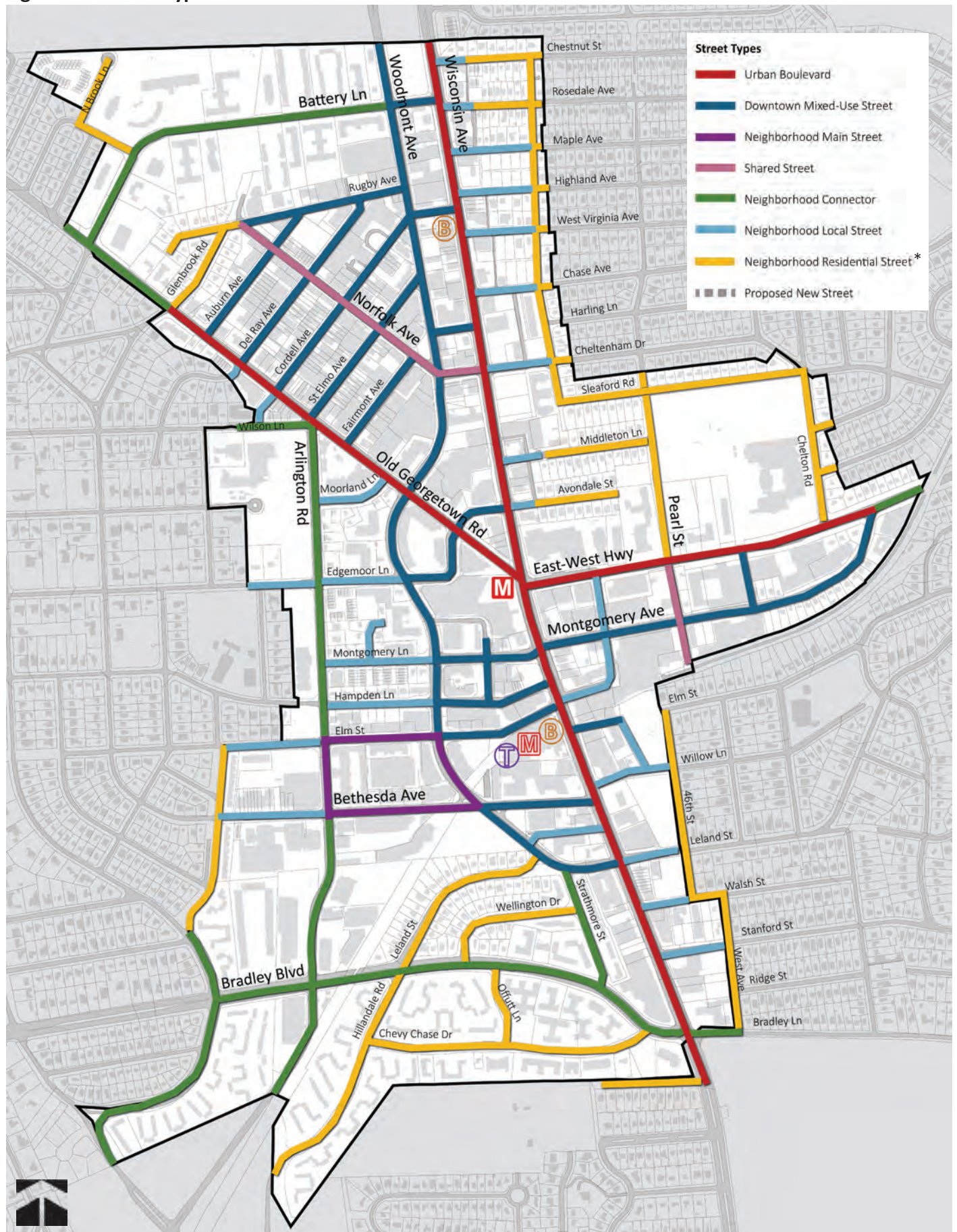
The roadway classifications identified in the Bethesda Downtown Sector Plan *Figure 2.08 Roadway Classification* follow the Montgomery County Code functional classifications defined in *Chapter 49 Article 3 Road Design and Construction Code*. These classifications provide a general framework for the design of roadways for the safety and convenience of all users, identifying design standards for elements, such as lane widths and curb radii.

The county functional classifications generally reflect the surrounding context, but the street types defined in the Bethesda Design Guidelines provide a finer-grained designation of streetscape character based on existing conditions and the Sector Plan vision for the pedestrian realm, building frontages and adjacent land uses. This document updates the street types hierarchy designated in the 1994 *Bethesda Sector Plan Chapter 6 Streetscape Plan*, creating types that better align with the proposed public space network and urban form goals in the Bethesda Downtown Sector Plan. The street types are also expanded to all streets within and along the Sector Plan boundaries.

These street type guidelines should be used in conjunction with the roadway functional classifications to guide future development review and streetscape improvements emphasizing sidewalk zones, building placement and building form. Additional building form guidelines are outlined in *Section 2.4 Building Form*. Also see p.4 and 5 for guidance on guidelines flexibility for streetscape design, building placement and building form.

Note: Developments that front multiple street types on a corner or through-block site should follow the guidelines for each street frontage and provide transitions in the design to mediate between different street types.

Figure 2.01: Street Types



* Several properties in the Sector Plan area that front on Neighborhood Residential Streets are designated for greenways. See Section 3.4 Eastern Greenway Districts for additional guidelines.

Sidewalk Zones

Sidewalks are crucial elements of street networks, economic vitality and pedestrian life. They link the public space network and provide safe and efficient pedestrian connections.

Sidewalks are also public spaces. They encourage and promote gathering, dining, vending, seating and play. They also provide opportunities for expanded tree canopy cover and stormwater mitigation.

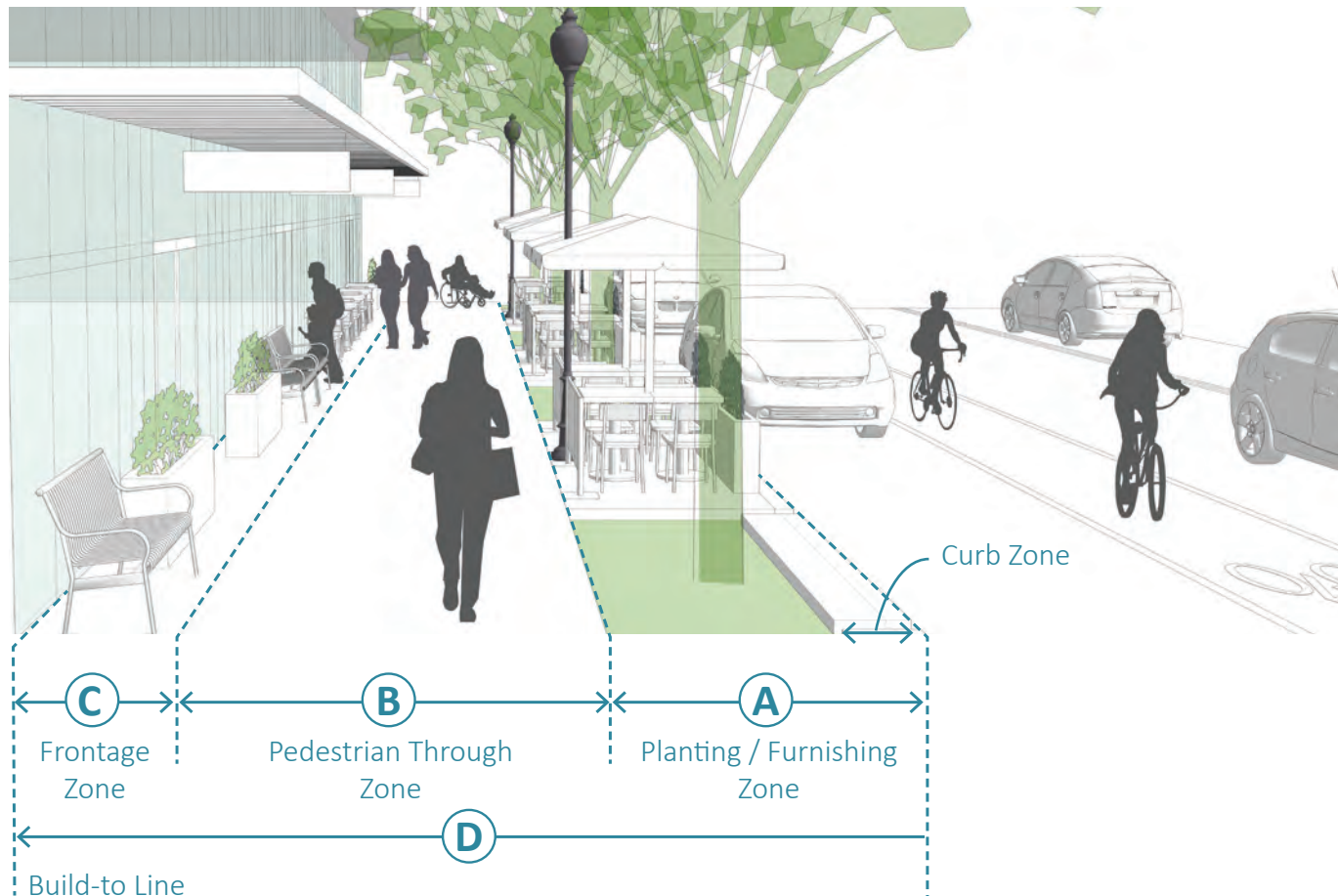
The sidewalk is divided into three zones: Planting/Furnishing Zone, Pedestrian Through Zone and Frontage Zone. These zones are flexible and can serve multiple functions depending on the street type. However, activities such as outdoor dining, serving and door swings should not encroach into the Pedestrian Through Zone. Utilities should be undergrounded so that poles will not interfere with the sidewalk environment.

A. Planting/Furnishing Zone: This zone is the buffer from vehicular traffic. It contains street lighting, street trees and planting strips, a curbside pedestrian loading area, street furnishings and occasionally outdoor dining on some street types. Though adequate Pedestrian Through Zone width should always be prioritized, streets should be lined with healthy, well-maintained trees to increase pedestrian comfort and canopy cover.

B. Pedestrian Through Zone: This zone provides unobstructed passage and should be designed to be accessible for people of all abilities. There should be no encroachments into this zone from the other two zones.

C. Frontage Zone: This zone is adjacent to the building and can accommodate elements such as retail display, café seating and plantings for ground-floor residential uses. On streets where a wider clear pedestrian pathway is needed, this zone can also serve as additional space for the Pedestrian Through Zone.

Figure 2.02: Sidewalk Zones and Building Placement



Building Placement

An important purpose of buildings in an urban setting such as Downtown Bethesda is to frame the public realm of streets and open spaces. Creating a consistent building edge along the public realm helps to define public spaces and delineate the pedestrian sidewalk environment. See *Section 2.4.2 Base: Building Placement* for guidelines.

D. Build-to Line: Build-to lines are regulating distances established along a street frontage that delineate the block face. In most cases, the facade of the building base should meet the build-to line along all frontages to create a continuous building wall.

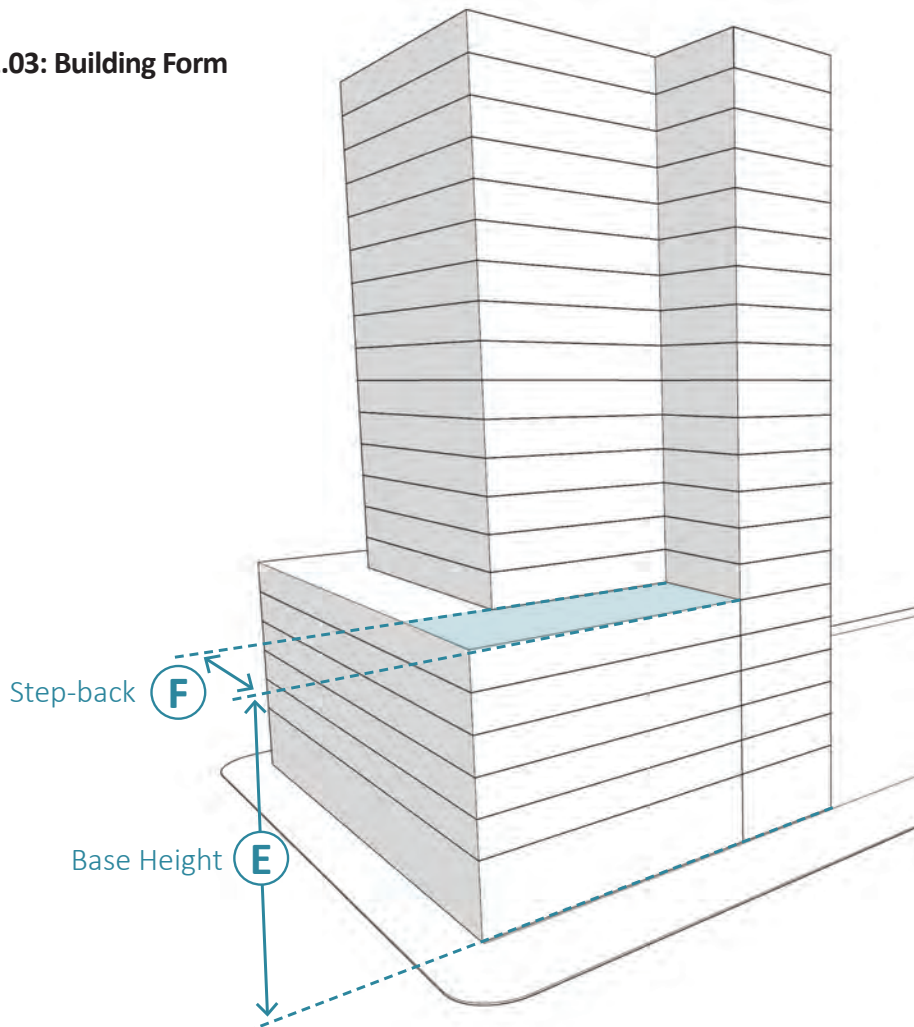
Building Form

An articulated low to mid-rise building base can provide compatibility with the existing context and increase the comfort of the public realm. See *Section 2.4 Building Form* for additional building form guidelines.

E. Base Height: Recommended base heights vary by street type to align with typical existing building heights or create a human-scaled environment for pedestrians on streets with predominantly high-rise development.

F. Step-Back: The upper floor step-back should be retained across the majority of the building frontage. See *Section 2.4.7 Tower: Step-Back* for guidelines. Though step-backs are one of the preferred methods to reduce tower bulk, particularly on small neighborhood street types, alternative methods are outlined in *Section 2.4.8 Tower: “Menu” of Methods to Reduce Bulk*.

Figure 2.03: Building Form



2.1.2 Urban Boulevard

Urban Boulevards typically carry a significant amount of pedestrian, bus and vehicular traffic, and connect to major transit nodes. These streets are predominantly lined by high-rise buildings with a mix of commercial and residential uses. Examples of Urban Boulevards include Wisconsin Avenue and Old Georgetown Road.

Intent: Building and sidewalk design along Urban Boulevards should ensure both efficient pedestrian flow and comfort despite the prominence of large-scale buildings and streets.

Table 2.01: Urban Boulevard

Sidewalk Zones

- A. Planting/Furnishing Zone: 6- 10 ft.
- B. Pedestrian Through Zone: 10- 20 ft.
- C. Frontage Zone*: 0- 10 ft.

Building Placement

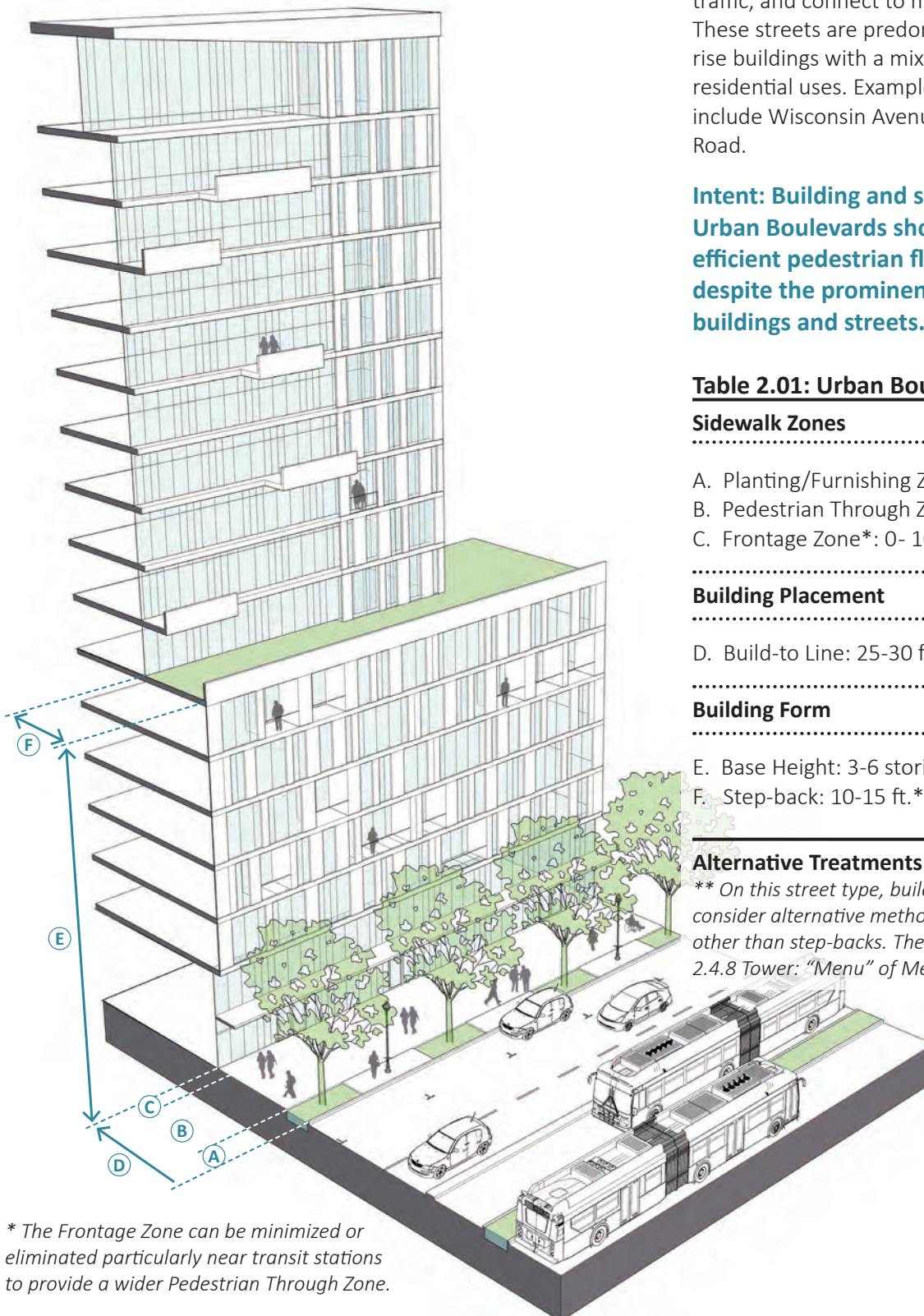
- D. Build-to Line: 25-30 ft. from street curb

Building Form

- E. Base Height: 3-6 stories (35-70 ft.)
- F. Step-back: 10-15 ft.**

Alternative Treatments

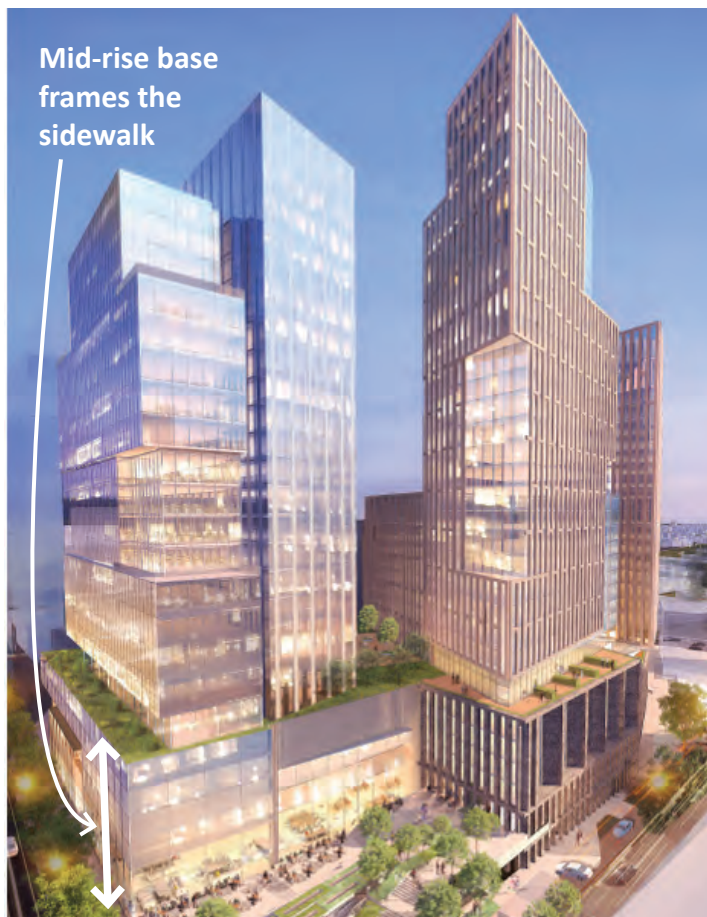
** On this street type, buildings under 120 ft. may consider alternative methods to reduce tower bulk other than step-backs. These are outlined in Section 2.4.8 Tower: "Menu" of Methods to Reduce Bulk.



* The Frontage Zone can be minimized or eliminated particularly near transit stations to provide a wider Pedestrian Through Zone.



Source: landscapeperformance.org



Source: Shalom Baranes Associates Architects



Source: Hariri Pontarini Architects

2.1.3 Downtown Mixed-Use Street

Downtown Mixed-Use Streets typically accommodate high levels of pedestrian activity with frequent parking turnover, as well as loading and service access needs for local businesses and multi-unit residential buildings. These streets are predominantly lined by mid- to high-rise buildings with a mix of commercial and residential uses. Examples of Downtown Mixed-Use Streets include Woodmont Avenue and most streets in the Downtown Bethesda core and Woodmont Triangle District.

Intent: Building and sidewalk designs along Downtown Mixed-Use Streets should create a vibrant environment that accommodates the diverse needs of businesses, residents and visitors. Sidewalks should balance ease of walkability for continuous pedestrian flow with space for outdoor uses.

Table 2.02: Downtown Mixed-Use Street

Sidewalk Zones

- A. Planting/Furnishing Zone: 5 - 8 ft.
- B. Pedestrian Through Zone: 8 - 12 ft.
- C. Frontage Zone*: 0 - 7 ft.

Building Placement

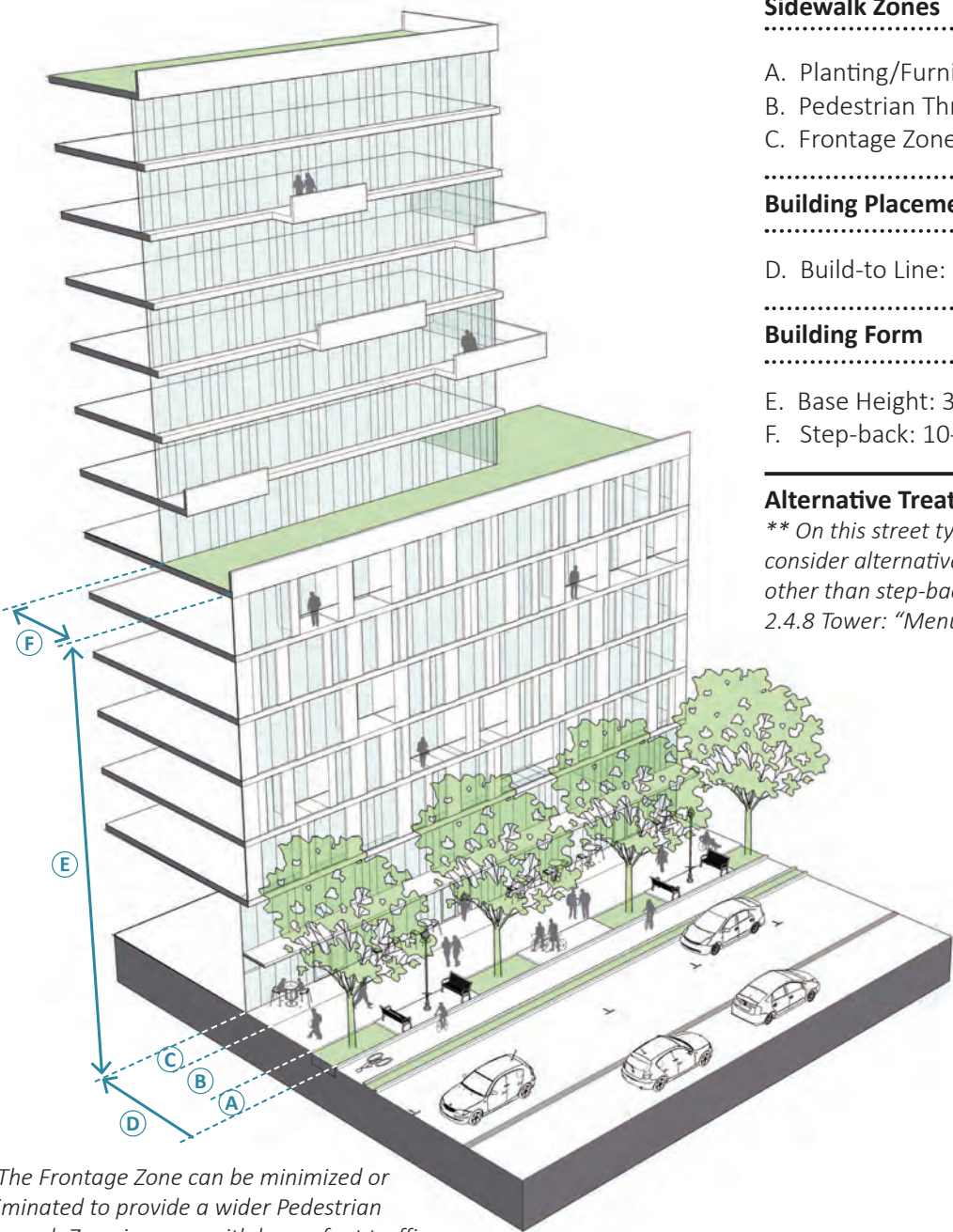
- D. Build-to Line: 15- 20 ft. from street curb

Building Form

- E. Base Height: 3-6 stories (35-70 ft.)
- F. Step-back: 10-15 ft.**

Alternative Treatments

****** *On this street type, buildings under 120 ft. may consider alternative methods to reduce tower bulk other than step-backs. These are outlined in Section 2.4.8 Tower: “Menu” of Methods to Reduce Bulk.*





A Downtown DC mixed-use street with a Planting Zone, wide and clear Pedestrian Through Zone and Frontage Zone with outdoor dining.



*This mixed-use building combines commercial lower floors and residential upper floors, which are stepped back.
Source: Gensler*



*A high-rise building illustrating a clearly articulated base, step-backs and vertical elements that extend the full building height.
Source: FXFowle*

2.1.4 Neighborhood Main Street

Neighborhood Main Streets typically accommodate high levels of pedestrian activity for shopping and dining with frequent parking turnover, as well as loading and service access needs for local businesses. These streets are predominantly lined by low-rise retail buildings and mid-rise mixed-use buildings with active ground floor retail. Examples of Neighborhood Main Streets include streets in the Bethesda Row District.

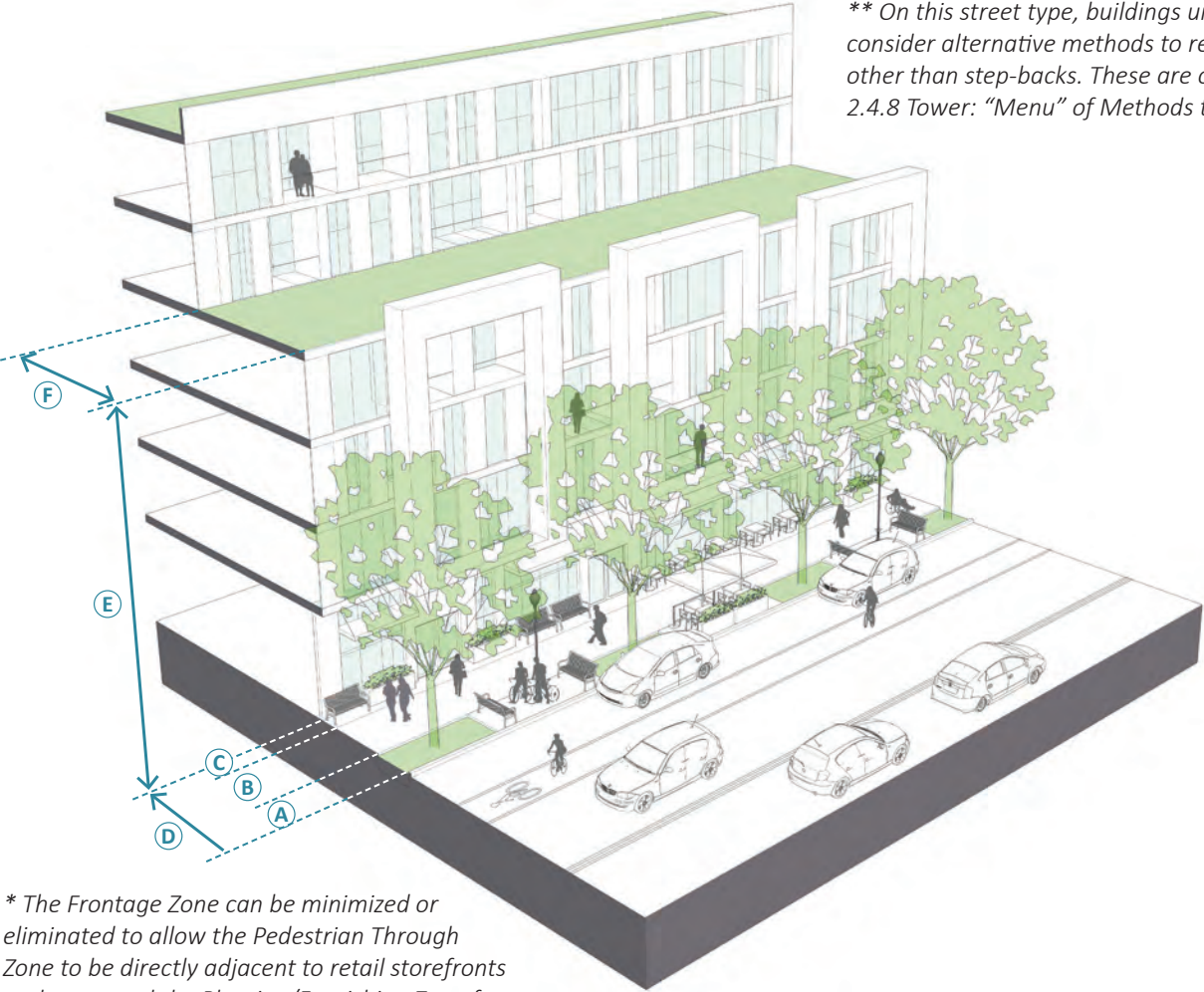
Intent: Building and sidewalk design along Neighborhood Main Streets should create a human-scaled environment with fine-grained design detail to add visual interest along the street. Sidewalks should be outdoor rooms with areas to accommodate activities, vending and seating, while also ensuring a clear passageway for pedestrians.

Table 2.03: Neighborhood Main Street

Sidewalk Zones
A. Planting/Furnishing Zone: 5 - 8 ft.
B. Pedestrian Through Zone: 8 - 12 ft.
C. Frontage Zone*: 0 - 7 ft. min.
Building Placement
D. Build-to Line: 15 - 20 ft. from street curb
Building Form
E. Base Height: 2 - 4 stories (25- 50 ft.)
F. Step-back: 15 - 20 ft.**

Alternative Treatments

*** On this street type, buildings under 90 ft. may consider alternative methods to reduce tower bulk other than step-backs. These are outlined in Section 2.4.8 Tower: “Menu” of Methods to Reduce Bulk.*



** The Frontage Zone can be minimized or eliminated to allow the Pedestrian Through Zone to be directly adjacent to retail storefronts and to expand the Planting/Furnishing Zone for outdoor dining and seating.*



A Bethesda Row street that is inviting for residents and visitors to shop, stroll, gather, and relax. The Planting/Furnishing Zone, Pedestrian Through Zone and Frontage Zone are all clearly delineated to organize the sidewalk environment.



Buildings along 14th Street NW in DC step back from the street above a low to mid-rise base to maintain the main street character and scale.

2.1.5 Shared Street

Shared Streets provide continuous special paving and slower speeds to allow people who walk, bike and drive to share the entire street, and to encourage street activity. Shared Streets are typically similar to Neighborhood Main Streets and are predominantly lined by low-rise retail buildings and mid-rise mixed-use buildings with active ground-floor retail. Shared streets are also designed to be partially or temporarily closed to vehicular traffic to serve as linear plazas for markets and other community events. Examples of proposed Shared Streets include Norfolk Avenue and Pearl Street in Bethesda. *Note: Until the shared street is constructed, use guidelines for 2.1.4 Neighborhood Main Street for sidewalk zones, building placement and building form.*

Intent: Building and streetscape design along Shared Streets should prioritize the pedestrian experience. These streets should provide a linear public open space that is flexible to accommodate all modes of transportation, street activities and occasional large events.

Table 2.04: Shared Street

Sidewalk Zones

- A. & C. Planting/Furnishing and Frontage zone dimensions on shared streets are flexible based on the specific street design.
- B. A clear Pedestrian Through Zone separated from vehicle traffic by bollards or other design elements should be 6 - 10 ft.

Building Placement

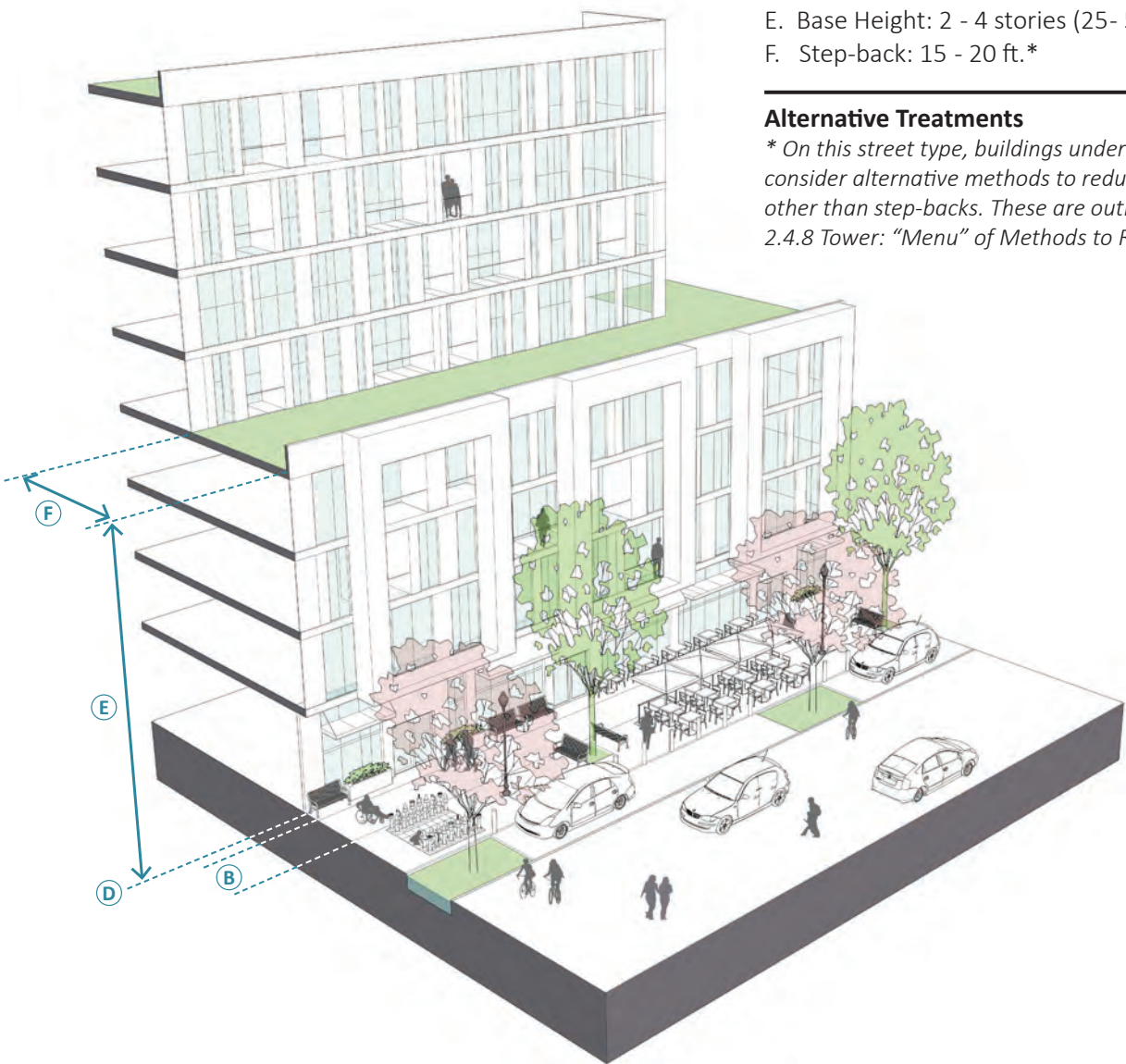
- D. Build-to Line: Sector Plan recommended right-of-way line

Building Form

- E. Base Height: 2 - 4 stories (25- 50 ft.)
- F. Step-back: 15 - 20 ft.*

Alternative Treatments

* On this street type, buildings under 90 ft. may consider alternative methods to reduce tower bulk other than step-backs. These are outlined in Section 2.4.8 Tower: "Menu" of Methods to Reduce Bulk.





Shared streets create a space for all users, where pedestrians and cyclists feel comfortable to share the entire width.
Source: GehlArchitects



Shared streets create expanded, active public spaces that attract people to gather and socialize.
Source: theplanner.co.uk



Shared streets can be closed to vehicle traffic for occasional events like farmers markets. With continuous paving, shared streets easily become a plaza-like public open space.
Source: Batavia MainStreet

2.1.6 Neighborhood Connector

Neighborhood Connectors typically accommodate vehicular through traffic for area residents and are often combined with bike facilities and less pedestrian volume than Downtown Mixed-Use and Main Streets. These streets are predominantly lined by multi-unit residential buildings with a range of building heights and auto-oriented commercial uses requiring frequent driveway curb cuts. Examples of Neighborhood Connectors include Bradley Boulevard, Battery Lane and portions of Arlington Road near the outer boundaries of the Downtown Bethesda Plan area.

Intent: Building and sidewalk design along Neighborhood Connectors should provide buffering for pedestrians from through traffic, as well as moderate building setbacks to align with the residential neighborhood character. For residential buildings, elements such as ground-floor amenity space and residential entries are encouraged.

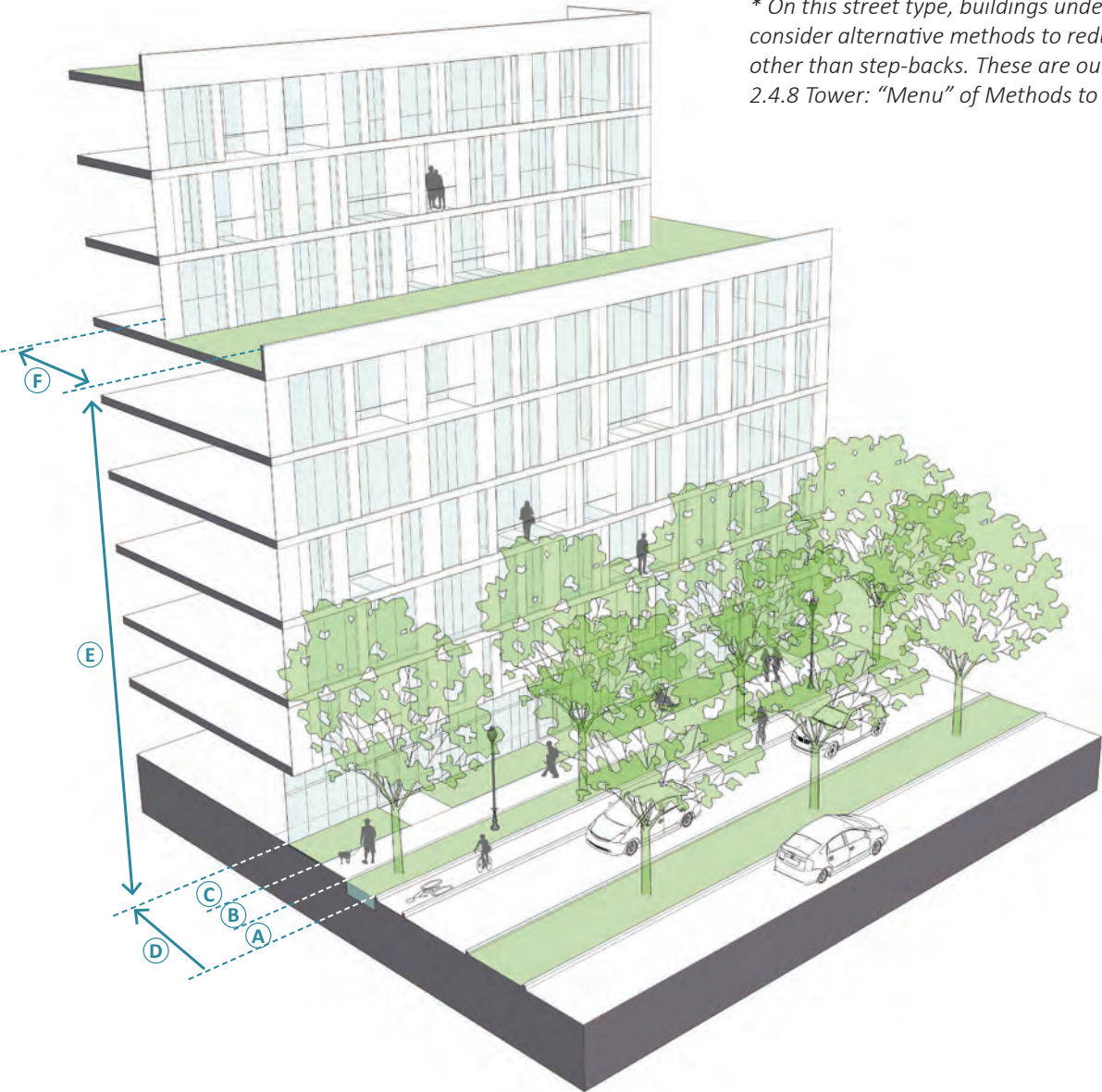


Table 2.05: Neighborhood Connector

Sidewalk Zones
A. Planting/Furnishing Zone: 6 - 8 ft.
B. Pedestrian Through Zone: 6 - 10 ft.
C. Frontage Zone: 5 - 8 ft. min.
Building Placement
D. Build-to Line: 20 - 25 ft. from street curb
Building Form
E. Base Height: 3 - 5 stories (35 - 60 ft.)
F. Step-back: 15 - 20 ft.*

Alternative Treatments
** On this street type, buildings under 90 ft. may consider alternative methods to reduce tower bulk other than step-backs. These are outlined in Section 2.4.8 Tower: "Menu" of Methods to Reduce Bulk.*



Lush landscaping frames and buffers the sidewalk from traffic to provide a pleasant environment for pedestrians to walk between different neighborhoods and districts.

Source: City of Seattle Office of Planning and Community Development



Mid-rise multi-unit buildings and stepped-back high-rises create a transitional scale for these neighborhood links.

Source: Union South Lake Union



Larger format and auto-oriented businesses often line Neighborhood Connectors, requiring careful balance with pedestrian and bicycle facilities.

2.1.7 Neighborhood Local Street

Neighborhood Local Streets are typically narrow side streets that accommodate shared bike uses, access to residential parking, on-street parking and low traffic volumes with very slow auto speeds. Sidewalks along these streets are often narrower than on other types because of the constrained street width.

Intent: Building and sidewalk designs along Neighborhood Local Streets should provide efficient and comfortable access from the urban core to neighborhoods of low-scale buildings and detached homes. Because local streets provide a transition from the downtown core to surrounding neighborhood streets, the height of building frontages should reflect this change in scale.

Table 2.06: Neighborhood Local Street

Sidewalk Zones

- A. Planting/Furnishing Zone: 5 - 8 ft.
- B. Pedestrian Through Zone: 6 - 10 ft.
- C. Frontage Zone: 0 - 4 ft.

Building Placement

- D. Build-to Line: 12 - 15 ft. from street curb

Building Form

- E. Base Height: 2 - 4 stories (25 - 50 ft.)*
- F. Step-back: 15 - 20 ft.*

** Properties on a Neighborhood Local Street confronting a Residential Detached or Residential Townhouse zone should see the Montgomery County Code Chapter 59 Section 4.1.8 Compatibility Requirements for base height and upper floor step-backs.*

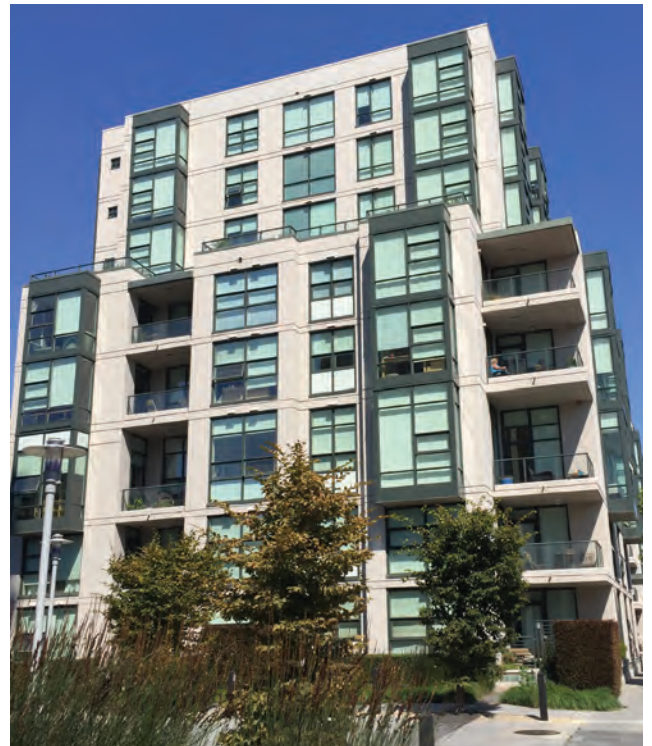




Local street with a narrow sidewalk width that accommodates a clear pedestrian through zone as well as a planting zone to provide shade and buffer.



*Townhomes on the lower floors of multi-unit buildings provide a transition to adjacent detached residential neighborhoods.
Source: Google Street View*



Taller buildings step back for compatibility with residential areas with detached homes.

2.1.8 Neighborhood Residential Street

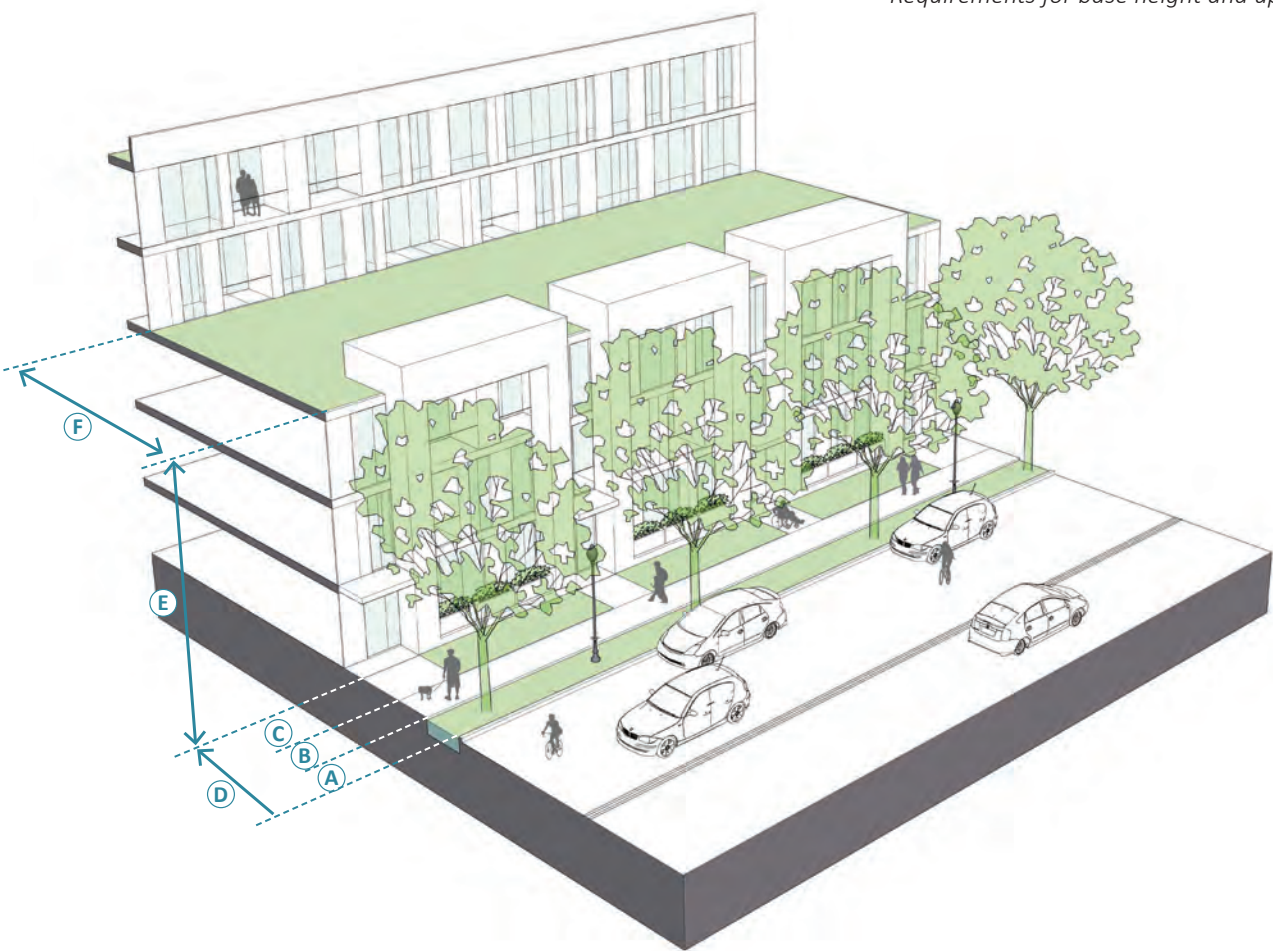
Neighborhood Residential Streets are narrow, low-volume streets that have on-street parking and provide for very slow moving local traffic. They are primarily lined with low-rise residential buildings, townhouses and detached homes.

Intent: Building and sidewalk designs along Neighborhood Residential Streets should provide landscaped local access creating a casual walking experience within a garden environment. The height of building frontages should reflect the low-rise scale of surrounding development and include elements such as frequent ground floor residential entries.

Table 2.07: Neighborhood Residential Street

Sidewalk Zones
A. Planting/Furnishing Zone: 6 - 8 ft.
B. Pedestrian Through Zone: 6 - 10 ft.
C. Frontage Zone: 5 - 8 ft. min.
Building Placement
D. Build-to Line: 20 - 25 ft. from street curb
Building Form
E. Base Height*: 2 - 3 stories (25 - 35 ft.)
F. Step-back*: 15 - 20 ft.

** Properties on a Neighborhood Residential Street confronting a Residential Detached or Residential Townhouse zone should see the Montgomery County Code Chapter 59 Section 4.1.8 Compatibility Requirements for base height and upper floor step-backs.*





Individual entries and stoops create connections to the sidewalk and reflect the character of surrounding townhouses and detached homes. Landscaping in the frontage zone also creates a privacy separation from ground floor residential uses.
 Source: David Baker Architects



Low-rise building frontages relate to residential streets with townhomes and detached homes.
 Source: ENCORE Architects



High density townhouse designs reflect the downtown context while maintaining the lower scale of residential streets.
 Source: Mithun.com



A large, multi-unit development incorporating lush landscaping, individual entries and a clear path for pedestrians and cyclists to pass through. Source: Mithun



Ground-floor retail incorporates transparency and outdoor seating areas oriented onto the Capital Crescent Trail.

2.1.9 Public Through-Block Connections and Trails

Intent: To improve connectivity for people to walk and bike throughout Downtown Bethesda and create additional outdoor public spaces for residents and visitors to enjoy.

Public Through-block Connections

Public through-block connections are most important within long blocks to provide an efficient pedestrian network to connect to adjacent streets and destinations such as open spaces and transit stations. These connections should be high-quality, open to the sky and wide enough to allow pedestrians and cyclists to pass through comfortably, and others to pause and sit or access building entrances. They should be highlighted through retail that wraps the corner, public art, signage or other design elements, which draw people into the connection from the sidewalk. Landscape can be added to create visual interest, and elements such as paving, lighting, seating, planters or trees should make the connection more inviting. Small-scale, urban recreational uses could also be considered in these spaces.

The aim is to have no more than one through-block connection on a block to not interrupt the continuous building wall. If there are multiple new developments on a block, they are encouraged to have party walls between the base floors to ensure this continuity. If additional gaps are required by building code, consider other uses such as service alleys.

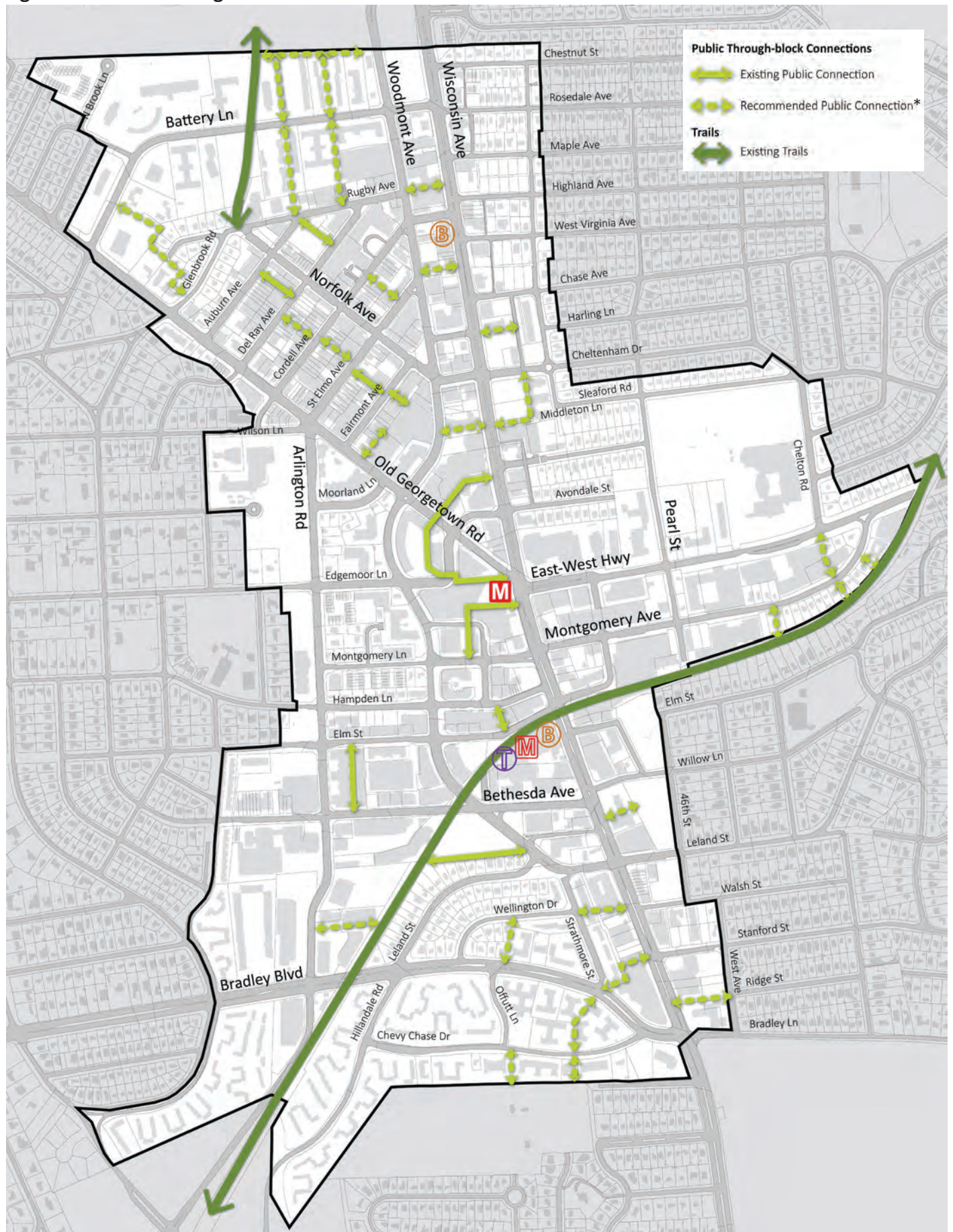
Trails

The Capital Crescent Trail and North Bethesda Trail are important public connectors for walking and biking to destinations throughout the county and region. In Downtown Bethesda, development should enhance the trail experience for users and minimize negative impacts. The facade of new development should be oriented toward the trail with ground-floor activating uses and landscaping or provide an appropriate transition with setbacks and landscape buffers.

The upper floors of buildings should step back from the trail to allow access to sunlight and sky views as well as to provide compatibility with detached homes in close proximity. Building orientation along the trail should include elements such as entrances to common areas or retail, ground-floor transparency, individual unit entrances, outdoor terraces, plantings and seating areas. If the building does not provide orientation to the trail, it should include a larger setback with a planted landscape buffer.

Properties on a trail confronting a Residential Detached or Residential Townhouse zone should see the Montgomery County Code Chapter 59 Section 4.1.8 Compatibility Requirements for base height and upper floor step-backs.

Figure 2.04: Public Through-Block Connections and Trails



* Additional public through-block connections are possible. Exact location and alignment to be determined during the development review process.

Figure 2.05: Guidelines for Public Through-Block Connections Shared by Pedestrians, Cyclists and Vehicles

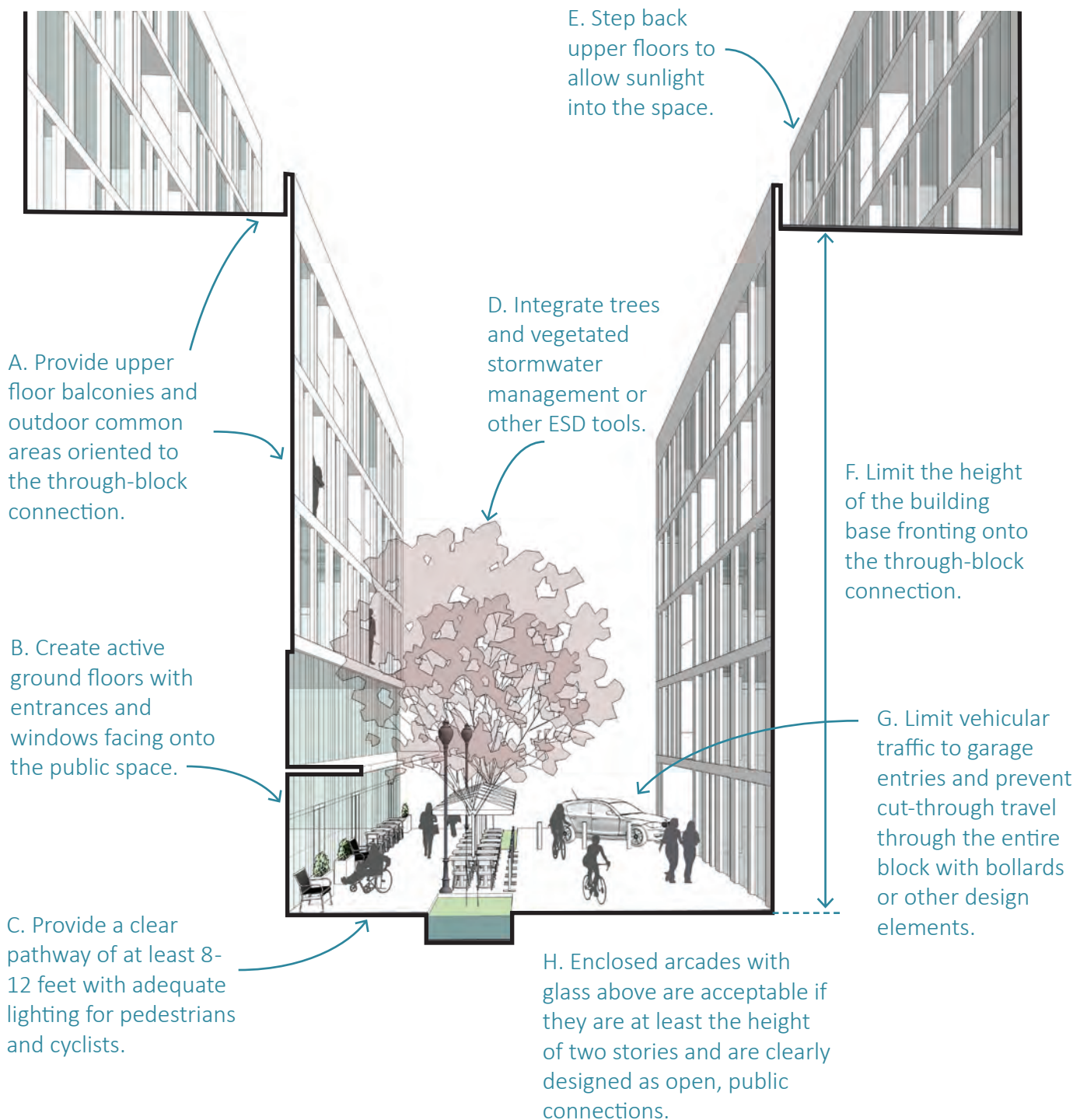
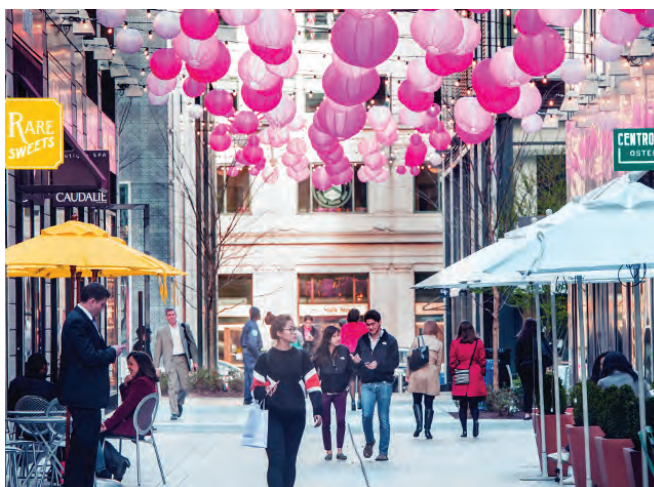
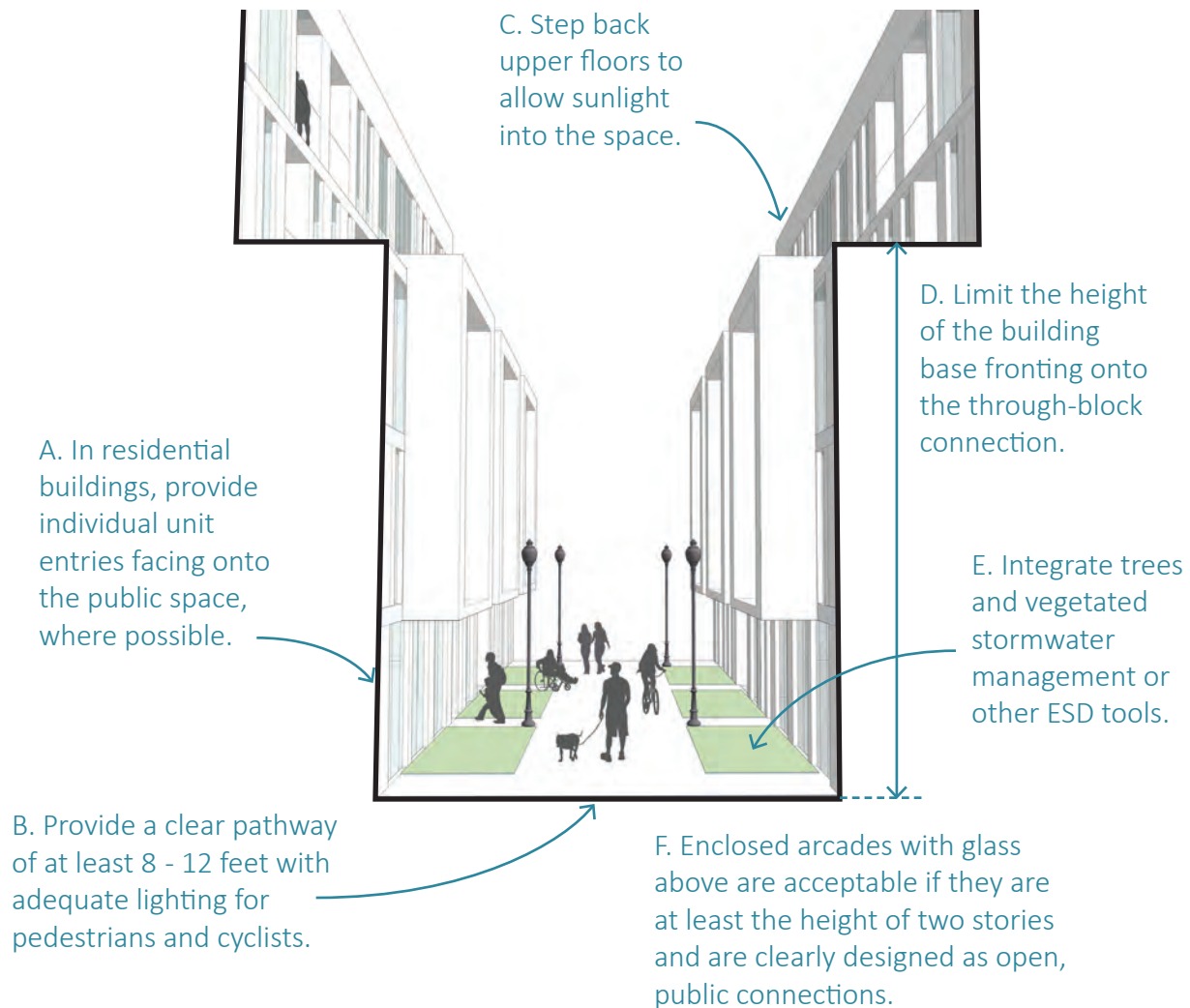


Figure 2.06: Guidelines for Public Through-Block Connections Shared by Pedestrians and Cyclists Only



City Center in DC has active, mixed-use through-block connections with ground-floor retail, planting, lighting and seating areas.

Source: City Center DC



A residential public through-block connection with individual entries, seating and planting creates an inviting space.



Woodmont Avenue tree canopy with a double row of trees.

2.1.10 Canopy Corridors

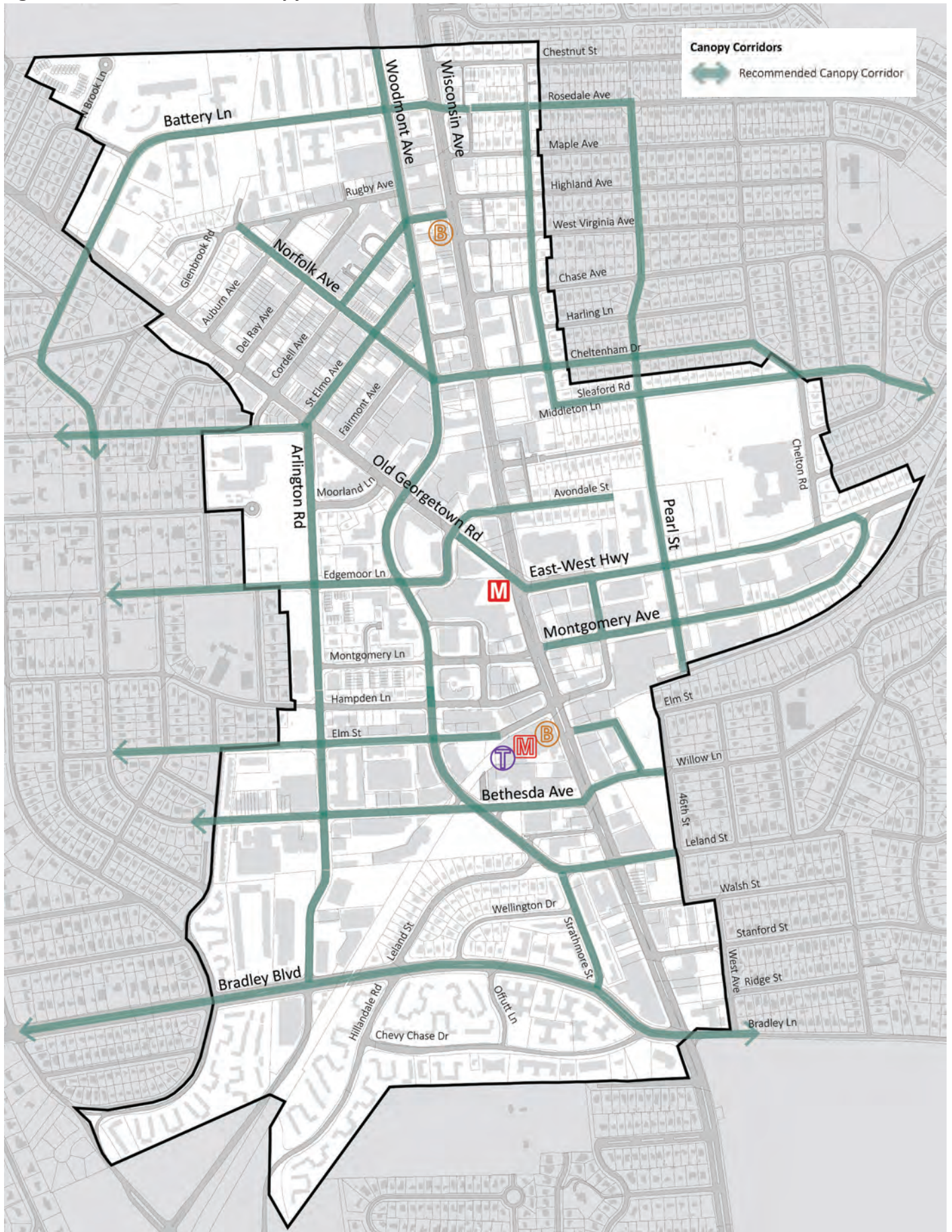
Intent: The Canopy Corridor recommendations in the Sector Plan aim to create green corridors that connect parks, trails, stream buffers and the denser forest networks beyond the Bethesda boundaries.

The canopy corridors align with the recommended bike priority streets where continuous streetscape improvements are most likely. Though bicycle and pedestrian facilities are the priority on these streets, tree canopy is also a crucial element to enhance shade, attractiveness and comfort to encourage people to walk and bike throughout the downtown.

Guidelines:

- A. Prioritize street tree planting along existing and proposed bicycle networks to expand linear green corridors.
- B. Use appropriate plant species that will thrive in various site conditions and climates. Species should be a combination of native and locally adaptive species lessening water demand while providing biological benefits.
- C. Provide soil volumes for canopy trees of no less than 600 cubic feet, as recommended in the Sector Plan. This volume may be achieved through amended soil panels, and where possible, utilize street tree panels for greater soil volumes.
- D. Design buildings to allow streets to receive sufficient sunlight to maintain healthy trees along these corridors.
- E. Provide the maximum sidewalk width possible to allow for larger canopy, and consider opportunities for double rows of trees.
- F. Include additional locations for trees on both private and public property, right-of-way and medians wherever possible.

Figure 2.07: Recommended Canopy Corridors



* Alignment to be determined during the development review process.

2.2 Parks and Open Space

The proposed system of parks and open spaces in the Bethesda Downtown area will result in a combination of public and private facilities. The new open space system will support a vibrant and sustainable urban center by including open spaces that will be comfortable, attractive, easily accessible, safe, and provide a range of experiences, up to and including festivals and other outdoor events.

2.2.1 Park Hierarchy

The Bethesda Downtown Sector Plan- 2.7 Parks and Open Space- includes a system of open spaces based on the roles of each type of open space.

The following hierarchy has been applied to the Bethesda Downtown Area:

Park Hierarchy

For the Sector Plan Area

Active Recreation Destinations - spaces including courts, playgrounds, and lawn areas large enough for pick up soccer, festivals or events, etc.

Central Civic Green- spaces located in close proximity to a public transit hub, next to activating uses, with a mixture of hard and soft surfaces including a central lawn area for events.

Interconnected System of Sidewalks and Trails - to connect parks and open spaces.

Wooded Areas- that will provide a sense of contact with nature.

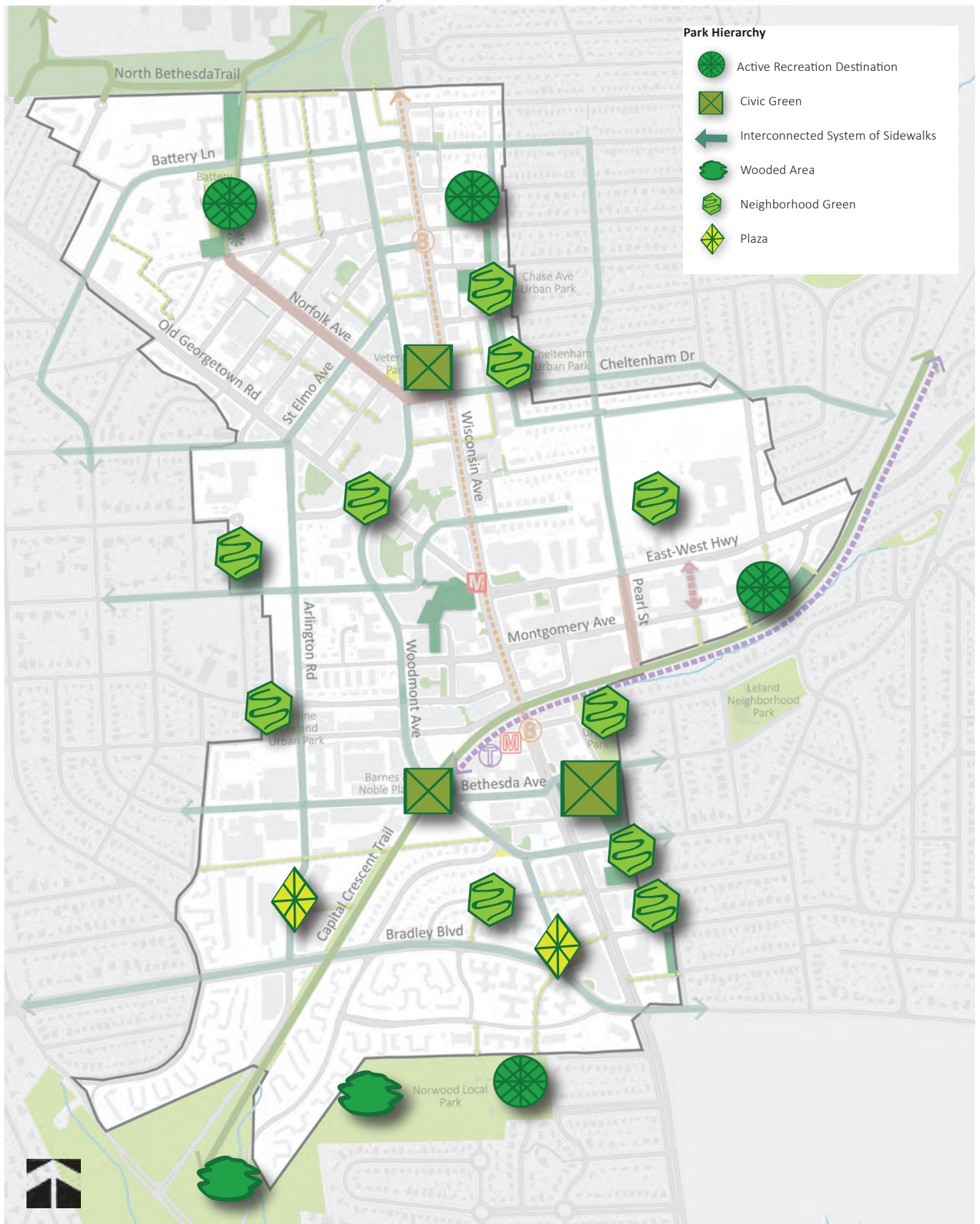
For each Urban Neighborhood - spaces for neighborhood greens, and walk-to recreational amenities.

For each Block - space for urban square, plaza, or green area.

For each Building - space for outdoor recreation space.

For each Residence - private outdoor space.

Figure 2.08: Park Hierarchy



2.2.2 Design Guideline Elements

The existing and proposed parks are shown in Figure 2.09, and include park and open space types from the Bethesda Downtown Sector Plan. Below is a list of the main elements of these design guidelines. Each element will be described in more detail in the following pages.

- A. Intent, Key Features, and Size
- B. Experiences and Mix of Uses
- C. Relationship to Adjacent Uses
- D. Site Access and Connectivity/ Social Equity
- E. Special Features
- F. Frequency of Use
- G. Community Benefits



*Washington Canal Park - linear park with flexible and protected lawn area to play games and appreciate art - Washington, D.C.
Source: Land Collective*

A. Intent, Key Features and Size

Each park and open space type help to ensure a complementary park system that is safe, clean, attractive (park design excellence), inclusive, adequate in size, open and welcoming to public.

B. Experiences and Mix of Uses

Public Spaces are about people gathering and sharing a common place. As such, each space is associated with experiences that will attract people to it. These design guidelines classify the outdoor experiences into three types:

A. Active

- exercise
- play sports/games
- run
- walk

Examples of Facilities:

- fields: open space/grass, hard courts and surfaces
- trails
- nature-inspired interactive elements
- playgrounds, etc



B. Contemplative

- enjoy nature
- relax
- meditate, reflect
- escape chaos

Examples of Facilities:

- natural areas, historic sites
- benches, trees for shade
- gardens, small green spaces
- community open spaces, etc



C. Social Gathering

- community festivals; farmer's market, lunch places, concerts, outdoor movies, parades, historic sites

Examples of Facilities:

- plazas with seating
- stage area/small courts
- large community open spaces
- dog parks, etc.



C. Relationship to Adjacent Uses

The land use surrounding each urban park is a critical element to its character and function. The scale of the ground floor and its open space needs to provide a welcoming pedestrian-scale relationship. Location of entrances can influence the sense of personal safety by providing: “eyes on the place”. The following design factors should be considered:

- Building frontages and entrances facing the park
- Street Frontage
- Compatibility
- Public Spaces as Central Community Focal Points
- Openness/Welcoming Spaces
- Interesting Viewsheds
- Solid & Void Relationships
- Clear delineation between the public space & adjacent private realm
- Connectivity to other public spaces and transit



*Downtown Silver Spring, MD - Spring Creek mosaic fountain - focal point and gathering spaces for the community.
Source: M-NCPPC*

D. Site Access and Connectivity/ Social Equity

Successful public spaces are connected and easily accessible to all in an integrated network of streets and sidewalks, mid-block connections, and proximity to transportation. The following design factors should be considered:

- Locations that accommodate and welcome diversity
- Meet ADA requirements
- Clear Entries/Gateways
- Safe Pedestrian Access/Crossings for all ages, especially children
- Trail System Connections
- Street Grid Continuity
- Public Transit & Bike System Connections
- Servicing, Access, and Shared Parking
- Directly connected to a Street Network
- Grade Transitions
- Access to Sunlight
- Wayfinding and Signage
- Accessibility
- Multi-modal Access



*Heart smart trail, Abington Art Center Sculpture Garden, Abington, PA.
Source: M-NCPPC*

E. Special Features

In addition to the location and hierarchy of open spaces within the public spaces system, there are special features that provide a unique setting and identity for each public space helping the community to engage and learn in inviting, safe and beautiful open spaces. The following design factors should be considered:

- Night Lighting
- Signature Main Open Space
- Signature Element: Interactive Water, Nature or Art Feature as Focal Point
- Defined Major Pedestrian Path
- Signage/Wayfinding, Interpretative Features
- Large species shade trees
- Park Furniture: Fixed Elements & Degree of Flexibility
- Accessible Amenities
- Cultural Features that create a Sense of Place



*ARTivity on the Green - urban park in Winston-Salem, NC, highlights the area reputation as “The City of Arts and Innovation”.
Source: ForsythWoman.com*

F. Frequency of Uses

These guidelines describe the frequency of use according to each park type. While all parks are available for every day use, Neighborhood Greens are more likely to be used daily or weekly by the immediate neighborhood, and Civic Greens -- as regional destinations -- provide additional use for special and seasonal events. Frequency of uses include:

- Special Events
- Seasonal Events
- Monthly Functions
- Weekly Functions
- Daily Functions

G. Community Benefits

Parks and open spaces are critical elements to be considered in the planning of a sustainable and resilient community. The presence of parks near neighborhoods promotes key community benefits. The following community benefits should be considered for every park type:

- Health and Wellness
- Happiness
- Connectivity
- Economic Development & Increased Neighborhood Value
- Green Infrastructure
- Air Quality
- Access to Natural Areas and Historic Sites
- Education
- Social Benefit
- Sense of Place

2.2.3 Design Guidelines for each Urban Park and Open Space Type

The design elements are described generally for each urban park type, see below:

A. Civic Green

1. Veteran's Park
2. Capital Crescent
3. Farm Women's Market
4. Eastern Greenway South (PLD lot #24)

B. Plaza

5. Arlington South Gateway Plaza
6. South Bethesda Public Plaza

C. Urban Greenway

7. North Bethesda Trail
8. Eastern Greenway North & South
9. Gateway into Norwood Local Park

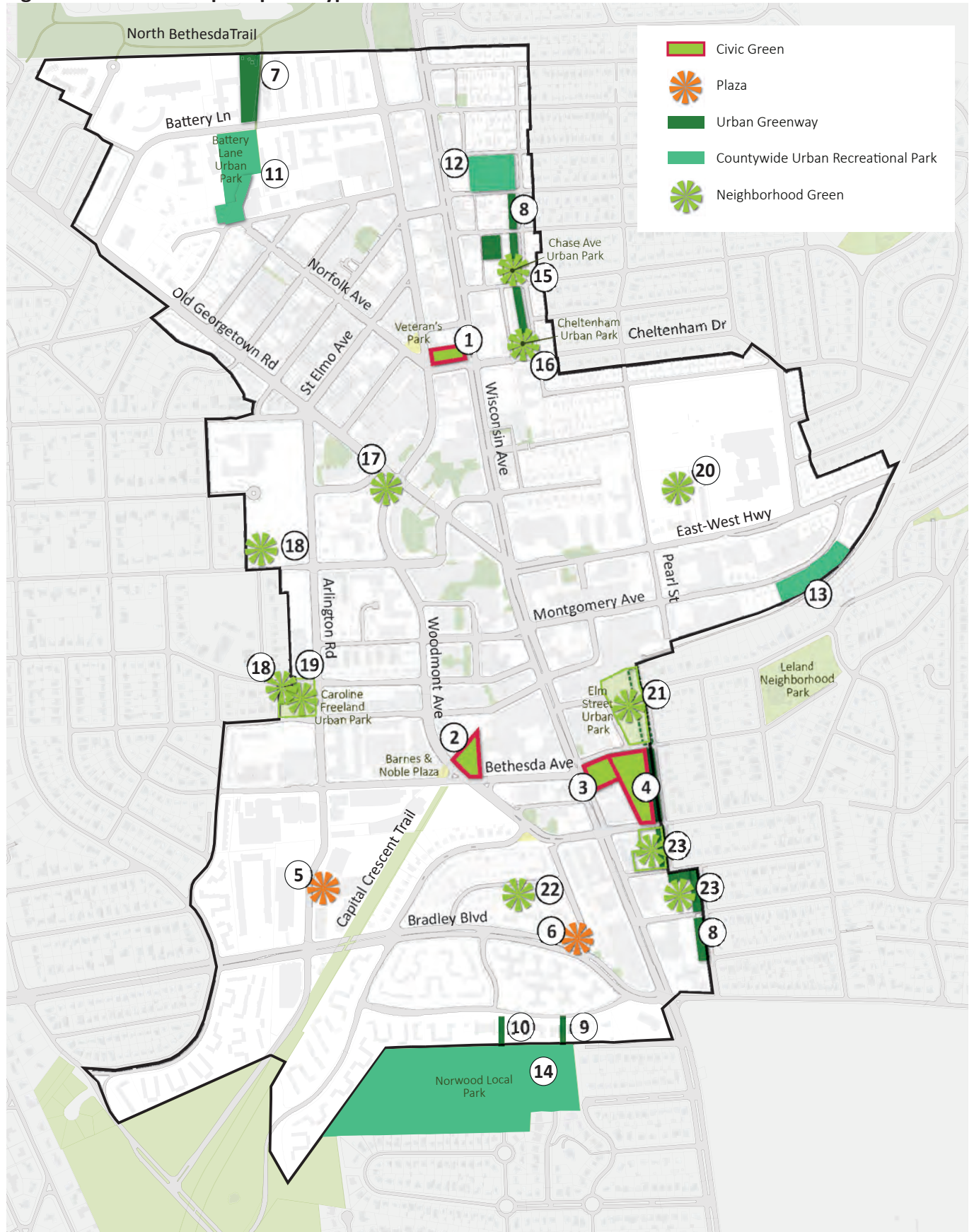
D. Countywide Urban Recreational Park

10. Battery Lane
11. Eastern Greenway North (PLD lot #25)
12. Eastern Capital Crescent Urban Greenway
13. Norwood Local Park

E. Neighborhood Green

14. Chase Avenue
15. Cheltenham
16. Old Georgetown Road
17. Western Edge Expansions (2)
18. Caroline Freeland
19. Bethesda-Chevy Chase East
20. Elm Street
21. Wellington Drive
22. Eastern Greenways (2)- (PLD lots #44 & #10)

Figure 2.09: Park and Open Spaces Types



Civic Green - Elements

Parks: Veterans Park, Farm Women's Market, Capital Crescent, Eastern Greenway South (PLD lot #24)

For more information on each park description, see the Bethesda Downtown Sector Plan – 2.7 Parks and Open Space.

Intent

Formally planned, flexible, programmable for:

- Informal gathering
- Large gatherings, markets, concerts, festivals
- Regional destinations

Key Features

- Large central lawn
- Surrounded by activating uses
- Optional: gardens, water features and shade structures.

Size - ½ acre minimum, 1 ½ acre ideal

Experiences - ensure a mix of uses with a focus on Social Gathering

- Active
- Contemplative
- Social gathering/community building

Relationship to Adjacent Uses (context)

- Located at the center of activating uses
- Building entrances should front on civic green

Site Access and Connectivity/ Social Equity

- Ensure physical and visual connections from street
- Ensure a connection to transit systems
- Ensure safe pedestrian crossings
- Ensure access to all
- Promote diversity

Special Features

- Capitalize on unique views
- Incorporate identity creating features or artwork
- Incorporate streetscape enhancements along open space edge
- Wayfinding, signage, interpretative features

Frequency of Use

- Special Events
- Seasonal Events
- Monthly Functions
- Weekly Functions
- Daily Functions



Summer concert in Schenley Plaza's lawn, Pittsburgh, PA.
Source: pittsburghgreenstory.com



Wooded area across from Schenley Plaza, Pittsburgh, PA.
Source: M-NCPPC



Madison Square Park - restaurant as anchor use, destination and meeting point - New York City, NY.
Source: Revista Sophia

Plaza - Elements

Arlington South Gateway, South Bethesda

For more information on each park description, see the Bethesda Downtown Sector Plan – 2.7 Parks and Open Space.

Intent

Formally planned, predominantly hardscaped spaces for:

- Areas of high pedestrian traffic
- Open air markets, concerts, festivals, and special events

Key Features

- Central hardscaped gathering area
- Public art/water feature as focal point
- Inclusion of the temporary closure of local streets to enlarge the size of the plaza for special events should be an important element in the design of its boundaries and edges
- Optional: special lighting, shaded areas, and benches and tables

Size - ½ acre minimum, 1.0 acre ideal (2017 PROS). However, the South Bethesda Plaza has a minimum recommended size of 0.15 acres.

Experiences - ensure a mix of uses

- Active
- Contemplative
- Social gathering/community building

Relationship to Adjacent Uses

- Located at the center of activating uses
- Building entrances should front on plaza
- Located in high pedestrian traffic areas

Site Access and Connectivity/ Social Equity

- Ensure physical and visual connections from street
- Ensure a connection to transit systems
- Ensure safe pedestrian crossings
- Ensure safe play areas
- Ensure access to all
- Promote diversity

Special Features

- Unique play areas
- Destination amenities- Skate parks on the hardscape
- Wayfinding, signage, interpretative features

Frequency of Use

- Special Events
- Seasonal Events
- Monthly Functions
- Weekly Functions
- Daily Functions



Activation of public spaces - Westlake Center Plaza in Seattle, WA.
Source: M-NCPPC



Veterans Park - gathering place for the community with fountain as focal point - Bethesda, MD.
Source: M-NCPPC

Urban Greenway - Elements

North Bethesda Trail, Eastern Gateway North & South, Gateway into Norwood Local Park

For more information on each park description, see the Bethesda Downtown Sector Plan – 2.7 Parks and Open Space.

Intent

Linear parks that provide:

- Trails
- Wide landscaped walkways and bikeways
- Other recreational and natural amenities
- A more intimate, slower experience for recreating than a bikeway
- Small areas for gathering

Key Features

- Trails, walkways and bikeways
- Vegetative ground cover and trees
- Links to other green spaces and trails
- Gathering pods
- Artwork and interpretive displays
- Natural features - trees landscaped beds

Size - the width should accommodate a ten foot trail plus the buffer vegetation (AASHTO). For the Gateway into Norwood Local Park a fifteen foot width is recommended.

Experiences - ensure a mix of uses with a focus on active and contemplative

- Active
- Contemplative
- Social gathering/community building

Relationship to Adjacent Uses (context)

- Location is defined by filling the gaps of access to the open space system
- May occur along road right of ways or paper streets

Site Access and Connectivity/ Social Equity

- Ensure physical and visual connections to the bike and trail network
- Ensure safe pedestrian crossings
- Ensure access to all
- Promote diversity

Special Features

- Enhanced natural systems such as streams
- Unique lighting
- Wayfinding, signage, interpretative features

Frequency of Use

- Special Events
- Daily Functions



Indianapolis Cultural Trail - bike-pedestrian route that connects five downtown cultural districts.
 Source: nacto.org



Hudson River Park - bike and pedestrian path, New York City, NY.
 Source: brokensidewalk.com

Countywide Urban Recreational Park - Elements

Battery Lane, Eastern Capital Crescent, Norwood Local Park

For more information on each park description, see the Bethesda Downtown Sector Plan – 2.7 Parks and Open Space.

Intent

Oriented to the recreational needs of a densely populated neighborhood and business district, They provide space for:

- Active recreation
- Recreational programming
- Community gatherings

Key Features

- Athletic fields, playing courts, picnicking, dog parks, sitting areas and flexible grassy open space
- Programming can include farmer’s markets, outdoor exercise classes, and community yard sales.

Size - varies (see Bethesda Downtown Sector Plan)

Experiences - ensure a mix of uses with a focus on active uses

- Active
- Contemplative
- Social gathering/community building

Relationship to Adjacent Uses (context)

- Located within walking distance of high density residential and commercial developments
- Compatible with other community serving uses such as recreation centers, libraries, etc.
- Located near transit system

Site Access and Connectivity/ Social Equity

- Ensure physical and visual connections from street
- Ensure a connection to transit systems
- Ensure safe pedestrian crossings
- Ensure access to all
- Promote diversity

Special Features

- Unique recreational amenity
- Artwork as recreational feature
- Unique lighting
- Wayfinding, signage, interpretative features

Frequency of Use

- Special Events
- Weekly Functions
- Daily Functions



Stead Park - multi-use field, basketball courts, recreation center and playgrounds - Washington, D.C.
Source: borderstan.com



Nortpoint Park - Spray-ground, Tacoma, WA.
Source: Metro Parks Tacoma

Neighborhood Green - Elements

Old Georgetown Road, Wellington Drive,
Bethesda-Chevy Chase East, Chase Avenue,
Eastern Greenway, Cheltenham, Western Edge,
Elm Street, Caroline Freeland

For more information on each park description, see
the Bethesda Downtown Sector Plan – 2.7 Parks and
Open Space.

Intent

Formally planned, flexible open spaces for:

- **Informal gathering**
- **Lunchtime relaxation**
- **Small special event gatherings**
- **Walk-to recreation**

Key Features

- Lawn area
- Shaded seating
- Play area
- Optional: a skate spot, a community garden, or similar neighborhood serving amenities

Size - ¼ acre minimum, ½ acre ideal

Experiences - ensure a mix of uses

- Active
- Contemplative
- Social gathering/community building

Relationship to Adjacent Uses (context)

- Located in the center of residential developments
- Within walking distance of residents

Site Access and Connectivity/ Social Equity

- Ensure physical and visual connections from street
- Ensure safe pedestrian crossings
- Ensure access to all
- Promote diversity

Special Features

- Picnic areas
- Play features and small game spaces
- Open lawns
- Neighborhood serving amenities, neighborhood identity features
- Wayfinding, signage, interpretative features

Frequency of Use

- Seasonal Events
- Weekly Functions
- Daily Functions



*Lakelands Clubhouse Park - lawn area with flexible uses central to the community and highly used all year round, Lakelands, MD.
Source: M-NCPPC*



*Greater Kennedy Plaza - Kidolnfo Play in the park with games, activities, and a free-play mobile playground. Providence, RI.
Source: Downtown Providence Park Conservancy*

2.3 Site Design

2.3.1 Environmental Site Design

Objectives

New developments, redevelopments or retrofits rely on the application of Environmental Site Design (ESD). ESD is a land planning and engineering design approach to manage and treat stormwater runoff. The purpose of ESD is to distribute small-scale treatment practices uniformly throughout a site, street, or community to provide onsite stormwater treatment. The second aspect of ESD is to mimic nature by simulating “woods in good condition” which allows water to slowly infiltrate through soil and into the ground water table while filtering out pollutants.

ESD treats rain where it falls to manage urban stormwater runoff and reduce overflow into the sanitary sewer system. The objectives of ESD are:

- **Minimize Volume:** Reduce or delay the volume of stormwater that enters the sewer system.
- **Minimize Peak Discharge:** Reduce the maximum flow rate into the combined system by decreasing the stormwater volume and lengthening the duration of discharge. This reduction inherently lowers the frequency of combined sewer overflows (CSO).
- **Maximize Water Quality:** Improve water quality through volume reduction, filtration, and biological and chemical processes.

In addition to satisfying the three urban stormwater control requirements, ESDs also fulfill several criteria as follows:

- **Treatment Train:** The ESD should be linked to form a treatment train where possible. For example, the overflow from a green roof could be directed into a vegetated planter box which when full, might overflow into a bioretention cell. The development of a treatment train allows for enhanced water quality and runoff reductions.

- **Site Integration:** The ESD should be able to be integrated into other functional components of the site, such as the landscaping and infrastructure, without impeding or significantly affecting their function. The land on which the ESD is applied should serve purposes in addition to stormwater management, such as open space, play areas, or walkways.
- **Design Storm:** The ESD should satisfy stormwater management objectives for small, frequently occurring storms to reduce the incidence of combined sewer overflow and mitigate urban stormwater pollution.
- **Source Control:** ESD should meet the stormwater management objectives for relatively small quantities of stormwater at or near the source, rather than at a centralized collection point. The ESD should be dispersed in different locations on a site, if necessary, to ensure distributed control of stormwater.

ESD Tool Box

There are many types of ESD tools that can be used in Bethesda. Systems such as vegetated filter strips, green roofs, and bioretention areas, to innovative new technologies such as underground detention vaults. In an urban setting with high amount of impervious cover, and limited land, artful, aesthetically pleasing, and creative ESD is needed. These site design strategies are an opportunity to contribute to the quality of life and place while providing: open space; parks/recreation/and play; increased biodiversity; contribute to urban greening; and improve air and water quality. A few common types of urban stormwater treatment systems are shown on the following pages.

Bioretention

Bioretention systems are shallow depressions within small drainage areas using soil and plant materials (bio) to reduce the volume of stormwater runoff, and detain and filter pollutant loads where they are generated. The soil media is engineered to maximize infiltration and pollutant removal. There are many types of bioretention systems, including cells, planters and swales. They can have a variety of plants including herbaceous plants, grasses, shrubs and in some instances, trees. Often, they contain underdrains to convey treated and surplus water to storm drains.

Design factors: Existing soils play a significant factor when determining the type of structure and drainage systems. Similar systems without the soil element are called retention systems.

A. Bioretention Cells

Bioretention cells are landscaped depressions that capture and treat stormwater runoff. The size and design of the bioretention cell depends on the area it drains, underground infrastructure and the type of soil in which the cell is placed.

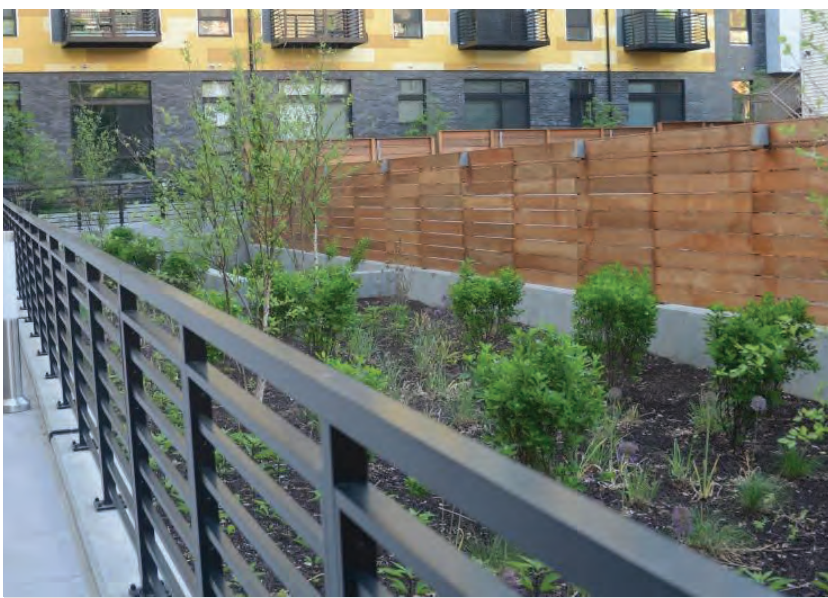
Stormwater is directed into the cell by pipes, swales, or curb openings. The depression temporarily captures and holds the first flush, usually the runoff from one-inch of runoff water from an impermeable area.



B. Vegetated Planter Box

A stormwater planter treatment box is often made of durable material or designed box with an amended soil media and vegetation. Runoff is piped, channeled or directed to the surface of the planter, where it is temporarily stored in a soil layer before collected in a bottom perforated drain pipe.

In general, there are two kinds of planters: infiltration, runoff is detained, infiltrated, and discharged to either another ESD or the local stormwater drainage pipes; and filtration (flow-through) runoff is filtered through a soil media or filter before discharge.



Bioswales

Swales are trapezoidal or parabolic drainage paths or vegetated channels designed to attenuate, convey and in some cases infiltrate stormwater runoff away from impervious surfaces. They are designed with layers of vegetation, amended soil, and may have a perforated pipe within the bottom gravel layer. A sloped base to facilitate water movement distinguishes bioswales from bioretention areas.

Design factors: There are two primary vegetated swale design variations: dry and wet.

A. Dry Swale

Dry swales are shallow, gently sloping channels with vegetation and low velocity flows. They contain highly permeable soils and an underdrain to allow the stormwater conveyance or infiltration to move away from the surface of the swale shortly after a storm event. With steeper slopes, check dams may be used to further enhance attenuation and infiltration.

Dry swales are more applicable for urban environments than wet swales, as they are designed to drain surface water within 24 to 48 hours.



B. Wet Swale

Wet swales are designed to retain water and maintain marshy conditions for the support of aquatic vegetation. They typically stay wet by intercepting the shallow groundwater table. They may not be suitable in Bethesda, except perhaps in the Battery Lane area where there is a higher water table near the campus of the National Institutes of Health.



Permeable Pavement

Permeable pavements are specific types of surfaces with a high porosity that allow rainwater to pass through the ground or into an underdrain system. They significantly reduce the amount of impervious cover, trap sediment and pollutant runoff to improve water quality, and mitigate surface temperature increases. There are many different materials commercially available for such pavements which can be divided into three basic types: porous asphalt, pervious concrete, and permeable interlocking concrete pavements.

Design factors: Each type of pavement provides a stable, load-bearing surface without increasing a project's total impervious area and can support parking lots, parking spaces, driveways, plazas, playgrounds, walkways, seating areas, crosswalks, and lower volume access roads. Permeable pavement creates more efficient land use by eliminating the need for additional stormwater management devices and lowering the overall project costs.

A. Pervious Asphalt

Porous asphalt pavements are used throughout the United States, in every climate and geography. Porous asphalt is an all-natural material using bounded rocks. Below the pavement is a gravel subsurface or recharge bed with void spaces in-between to catch and contain rainfall.



B. Pervious Concrete

Aggregate particles are coated in a cementitious material with 15-25 percent void spaces in-between the particles allowing water to filter through the surface.



C. Interlocking Pavers

Most often, interlocking pavers are made of solid concrete with small, stone-filled joints that allow water to flow into highly permeable, open-graded bedding, base, and subbase aggregates.



Vegetated Roofs

Green roofs and living roofs are alternative roof surfaces that replace conventional construction materials with a planting media and vegetation. They may be used in place of traditional flat or pitched roofs to reduce impervious cover and more closely mimic natural soil hydrology. Green roofs reduce heat island effect, decrease the buildings demand for heating and cooling, and provide additional habitat and valuable open space in the urban landscape.

Design factors: There are three basic green roof designs distinguished by media thickness and the plants that can grow in them.

A. Extensive Vegetated Roof

A lightweight system (15-25 lbs per square foot) in which the media layer is less than 6 inches. The shallow soil media limits species to primarily mosses, succulents, sedums, selective herbs and a few native grasses.

Extensive vegetated roofs provide the least amount of stormwater management. They have limited impact towards County storm water management requirements, and support the fewest varieties of drought tolerant species.



B. Semi-Intensive Vegetated Roof

A deeper soil media layer between 5-7 inches with a weight between 25- 40 lbs per square foot. Capable of supporting a richer variety of plants, including flowering plants, herbs, taller grasses and small shrubs.

This type of roof can retain more stormwater runoff than an extensive system for greater credit toward meeting the county's stormwater management requirement.



C. Intensive Vegetated Roof

Intensive green roofs have a soil media greater than 8 inches. They can support more diverse plant communities, including tall grasses, vegetables, fruit and other trees, and shrubs which allow for greater biodiversity. They are most often found on commercial buildings, and require a more supportive roof structure. They often include paths, walkways and seating areas allowing for human uses

They provide the greatest amount of retention towards meeting the county's stormwater management requirement.



Rainwater Harvesting

Rainwater harvesting is the practice of intercepting and storing rainfall for future use. Rainwater is collected in gutters and downspouts then directed into catchment cisterns where it can be used or stored when needed. This water may be used for outdoor landscaping irrigation, vehicle washing, greywater (toilets, clothes washers), or other non-potable water needs. Some jurisdictions allow it to be used as potable water when properly treated. The capture and re-use of rainwater promotes water conservation through reuse, as well as reduces stormwater runoff volumes and the discharge of pollutants downstream.

Design factors: The elements used in rainwater harvesting can be either hidden from sight underground or within buildings, or they can be celebrated as artful, figural elements on or near a building where people can see them and/or learn about them. Most harvested rainwater is stored in cisterns of many different designs and materials. Each cistern design has advantages and disadvantages. Cistern materials include reinforced concrete, fiberglass, steel, polyethylene, fiberglass and stone or brick. A variety of elements to filter or treat water is available depending on intended water use.

A. Above Ground Cisterns

Above ground water cisterns/tanks can be constructed onsite, within a building for display, within the landscape, or can be mounted on the roof. They are less expensive than below ground tanks but are subject to sunlight and weather conditions (freezing) that may affect the system and limit use.

Above ground storage cisterns are ideal for educating the public on the importance of rainwater harvesting and water conservation



B. Below Ground Cisterns

Belowground tanks maintain a consistent water temperature throughout the year, take up no surface area, and are protected from UV degradation. Like above ground tanks, there are a variety of options in materials, shapes and forms. In urban areas and for commercial use, modular cisterns are becoming more common as they can be installed under parking areas, courtyards and playgrounds.



C. Indoor Rainwater Harvesting

Where there is room, be it an attic or basement, indoor cisterns are a viable option. They are less expensive to install and maintain, and can increase the lifespan of a cistern.



Underground Detention/Retention Vaults

These underground structures designed to manage excess stormwater runoff on a developed site, often in urban areas. Underground facilities can store and slow down water infiltration processes following a storm event. They are frequently used when there is insufficient above ground surface area on the site to infiltrate runoff or build a surface facility such as a bioretention system. They manage the quantity of runoff, but they frequently do not provide water quality treatment.

Design factors: Underground stormwater detention allows for high volume storage of runoff in a small area. The storage vessels can be made of a variety of materials, including corrugated metal, aluminum, steel, plastic, fiberglass, pre-cast or poured-in-place concrete. There are many types of underground storage, but most often fall into one of the following four categories.

A. Underground Storage Vaults

Storage vaults and tanks are typically constructed of pre-cast concrete with or without a bottom slab, depending on the intention to let stormwater runoff infiltrate into the ground or flow into the storm drain system.



B. Storage Chambers

Storm chambers are underground structures that can be used for detention or retention of stormwater. The open bottom chamber can be used for retention where stormwater infiltrates into the underlying soils or for detention where peak flows are attenuated through an outlet control structure.



C. Gravel Beds

Gravel beds are excavated subterranean areas filled with uniformly-graded pebbles. They are meant to temporarily detain water and promote infiltration. The spaces within the gravel allow excess water to be stored.



D. Perforated Pipes

Perforated pipes come in a variety of sizes. They typically combine the methods of gravel and pipe storage to detain water and promote infiltration.



Artful Environmental Site Design and Treatment Trains

Artful ESD effectively manages stormwater while also creating inviting landscapes and public art to build amenities that enhance a site's open space, aesthetic value, and often create fun places to be. This approach celebrates the treatment of stormwater in an artful, environmentally responsible way. The best artful ESD require a collaboration between engineers, landscape architects, urban designers and architects who work together to improve site amenities while complying with stormwater regulations.

.....

The images below illustrate artful ESD resulting in inspirational and aesthetically appealing open space for people to enjoy and learn from.



.....

The images below illustrate treatment trains where stormwater cascades from one system to another to meet regulatory requirements.



2.3.2 Green Cover

Intent: The green cover guidelines are intended to increase overall tree canopy cover, expand green corridors, reduce heat island effect, improve air quality and carbon sequestration capacity and improve ecological biodiversity. See the Sector Plan Section 2.4.1 Urban Green.

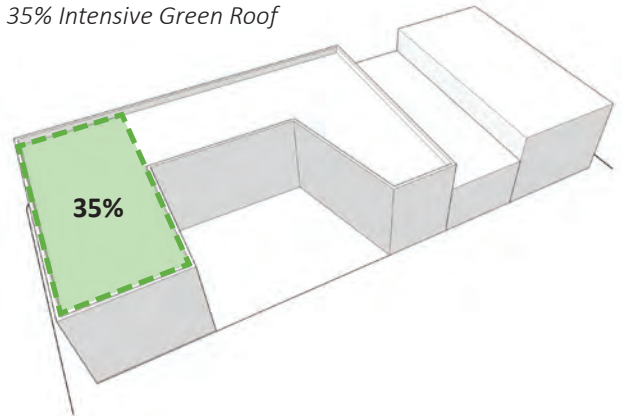
Guidelines:

On private property, provide a minimum of 35 percent* green cover, which may include singularly or a combination of the following:

- A. Intensive green roof (6 inches or deeper) on 35 percent of rooftop.
- B. Tree canopy cover on 35 percent of landscape.
- C. A combination of tree canopy and intensive green roof for a total green cover of 35 percent or greater.

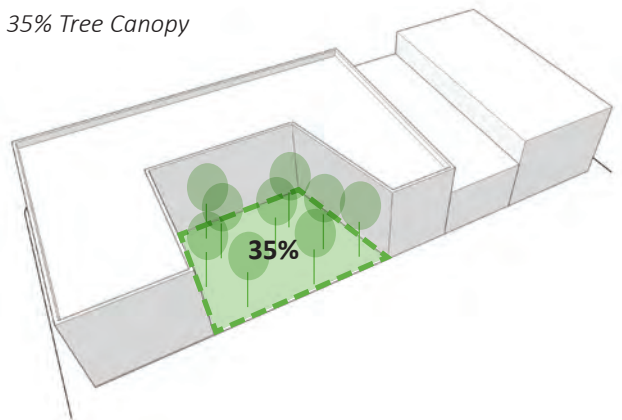
** If on-site energy generation requires the use of the roof or open space, accommodations for these features may alter the 35 percent minimum green cover requirement.*

35% Intensive Green Roof



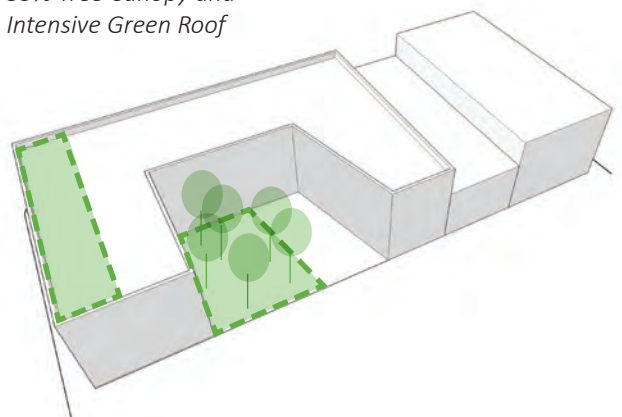
OR

35% Tree Canopy



OR

35% Tree Canopy and Intensive Green Roof



2.3.3 Servicing, Access and Parking

Intent: Loading, servicing and parking should be designed to minimize conflicts between vehicles, pedestrians and cyclists and reduce the visual impacts of vehicle access and parking on the Public Realm. Site design should prioritize the public sidewalk and bikeways over private vehicular crossings.

Guidelines:

- A. Line the ground floor of structured parking with retail or other uses with transparency to maintain an active building edge. Where active uses are infeasible, avoid exposed parking floors along the street through measures outlined in the Zoning Ordinance *Section 6.2.9.D.1 Structured Parking Requirements*.
- B. Design exterior of the garage portion of the building to be compatible with the rest of the building facade, in order to enhance the overall architectural quality of the building.
- C. Provide a continuous, level and clearly delineated Pedestrian Through Zone across driveways to encourage drivers to yield to pedestrians. Consider applying the same materials across these vehicle access points as the sidewalk, such as brick pavers.
- D. Locate loading and servicing within the interior of a building at the rear whenever possible. Service alleys are also recommended where setbacks are required from the side or rear property lines for building code.
- E. Avoid placing entries to loading docks, service areas and parking garages on neighborhood residential streets when alternative access is feasible.
- F. Minimize the width and height of driveways and vehicular entrances. Where possible, combine loading dock and garage access.
- G. Screen vehicle and servicing access areas and trash storage with landscaping or other vertical elements, and design vehicle access doors to incorporate high-quality materials and finishes that are consistent with the building.
- H. Vehicle access points should not be located adjacent to a public open space other than through-block connections.
- I. Coordinate location of access points with adjacent and confronting properties where possible to ensure a comfortable sidewalk environment and limited conflicts.
- J. Provide loading spaces for pick-up and drop-off where feasible to reduce idling in the travel lane.
- K. Design structured parking floors to be flexible for future retrofit to other uses where possible.
- L. Ensure continuous tree canopy along service areas and lay-by areas to the greatest extent feasible.
- M. While not recommended in Downtown Bethesda, surface parking should be designed according to the following:
 - Locate the parking on the back of the building, with the building fronting the primary streets and sidewalks.
 - For interim lots, design the parking to provide flexibility for temporary events such as pop-up events and public gatherings to maintain an active street edge. See *Section 2.5 Creative Placemaking*.

Servicing Operations:

The dense urban grid presents both challenges and opportunities for loading and trash collection. Without alleys, trucks and other delivery vehicles have to make complex maneuvers on the streets to access the buildings' loading areas where they exist or simply operate from the streets themselves when the buildings they serve don't have off-street loading facilities. When trucks must access buildings from streets, especially high volume corridors, the loading areas create conflicts with pedestrians. When loading

operations occur on the street, standing trucks often block curbside travel lanes or designated bikeway facilities.

To reduce those conflicts, it is imperative to have thoughtful and strategic traffic operation plans in agreement before occupancy permits are issued. Recognizing that traffic operation plans have to account for the unique design and use of the site, the following includes a list of guidelines that address safety of all travel modes:

- Loading and trash collection should occur outside of peak hours on weekdays as volumes of pedestrians are likely to be low.
- If loading is not designed into the mass of the building or underground as preferred, trucks should back into designated loading areas, so they are exiting the site “head out”.
- When loading, trucks should operate in designated off-street loading areas. On-street loading and other operations should be avoided.
- When not in use, loading areas should be shut off from the public with roll-top doors or other enclosures.
- Loading areas must be clearly marked to inform all users of their presence and to deter inappropriate parking in these areas.
- Trash for collection must be out of the right-of-way and not obstruct the Pedestrian Through Zone.



Structured parking floors are screened with a facade treatment consistent with the design of the building.



This parking entrance is designed to blend with the ground floor retail design, and has a limited driveway width to reduce interruption along the sidewalk.

Source: Google Street View

2.4 Building Form

The Sector Plan recommends increases to allowable building heights and the Bethesda Overlay Zone allows the flexibility to transfer and allocate additional density. As a result, building form guidelines are critical to create clear expectations for the development review process and ensure that buildings contribute to a quality public realm.

Top

Top guidelines apply to buildings in prominent locations and with significant height. See the section below for top guidelines:

- **2.4.9 Tower Top**

Tower

Tower guidelines apply to the portion of buildings taller than the base height designated in *Section 2.1 Street Types*. See the sections below for tower guidelines:

- **2.4.6 Separation Distance**
- **2.4.7 Step-Back**
- **2.4.8 Methods to Reduce Bulk**

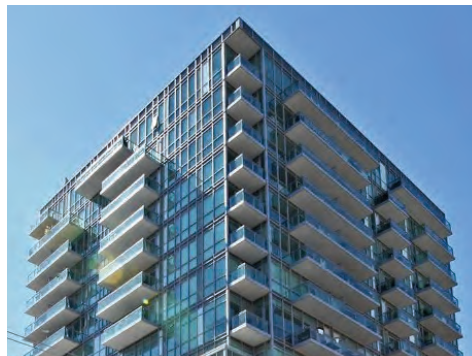
Base

Base guidelines apply to all building types. See the sections below for base guidelines:

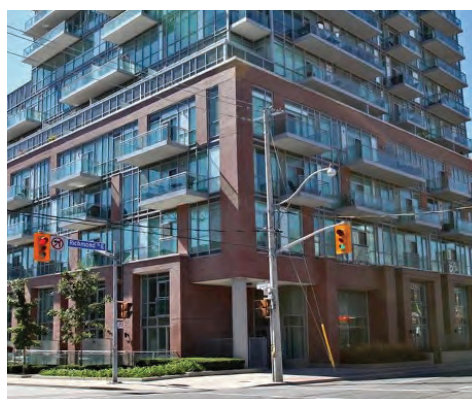
- **2.4.2 Building Placement**
- **2.4.3 Street Activation**
- **2.4.4 Variation and Articulation**

The intent of the building form guidelines is to avoid the challenges of poor building design evident today in Downtown Bethesda. Several buildings have large blank walls, imposing massing and bulk, and are incompatible with existing district and neighborhood character. The cumulative effect of these poor design decisions is to create a less inviting environment for pedestrians and building inhabitants, and negatively affect the overall image of the downtown.

The building form guidelines are organized by Base, Tower and Top and apply to buildings at specific heights, from low- to high-rise scale. Additional guidelines in this section apply generally to the design of all building types.



Source: Leddy Maytum Stacy Architects



Source: Hariri Pontarini Architects



Source: Lanterra Developments

2.4.1 Compatibility

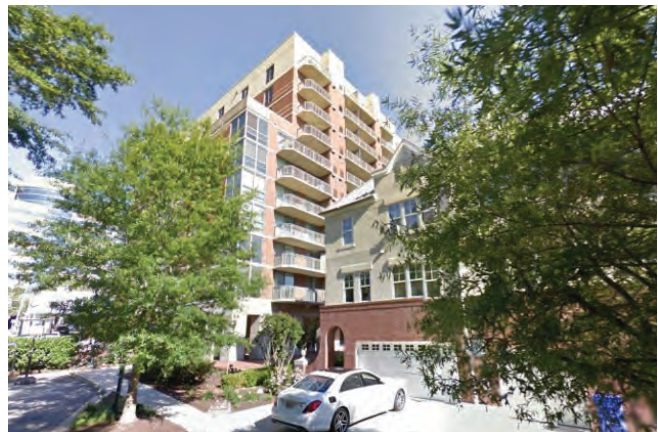
Intent: Most new projects in Bethesda will be infill development, therefore design should respect the existing character and scale of the downtown's diverse districts, neighborhoods and public spaces.

Guidelines:

- A. Maintain the character of small-scale retail streets by creating ground-floor retail with awnings, signage and bays that reflect the dimensions and design of adjacent existing stores. Step back upper floors to continue the pedestrian experience along the sidewalk of a low to mid-rise building edge.
- B. Provide transitions to surrounding neighborhoods by including elements such as:
 - Stepped-down building heights.
 - Individual entries to ground-floor units.
 - Setback transitions to residential properties with front yard setbacks.
 - Increased landscaping in the frontage zone and planting/furnishing zone.
 - Fine-grain building articulation, such as variations in wall planes, colors, materials and textures.
- C. Study the impacts of new development on public open spaces. Limit shadows where possible and provide active ground floors with entrances and windows onto public open spaces, avoiding orienting the backs of buildings to these spaces.



Norfolk Avenue has a unique scale and character that should be reflected in future development.



The Bethesda Theater redevelopment maintains the historic building character along Wisconsin Avenue and transitions to adjacent residential neighborhoods.

Source: Google Street View



Transitions from Wisconsin Avenue to surrounding neighborhoods require stepping down of buildings to mediate between the high-rise and low-rise scales of the two areas.

Source: The Vine Condos

2.4.2 Base: Building Placement

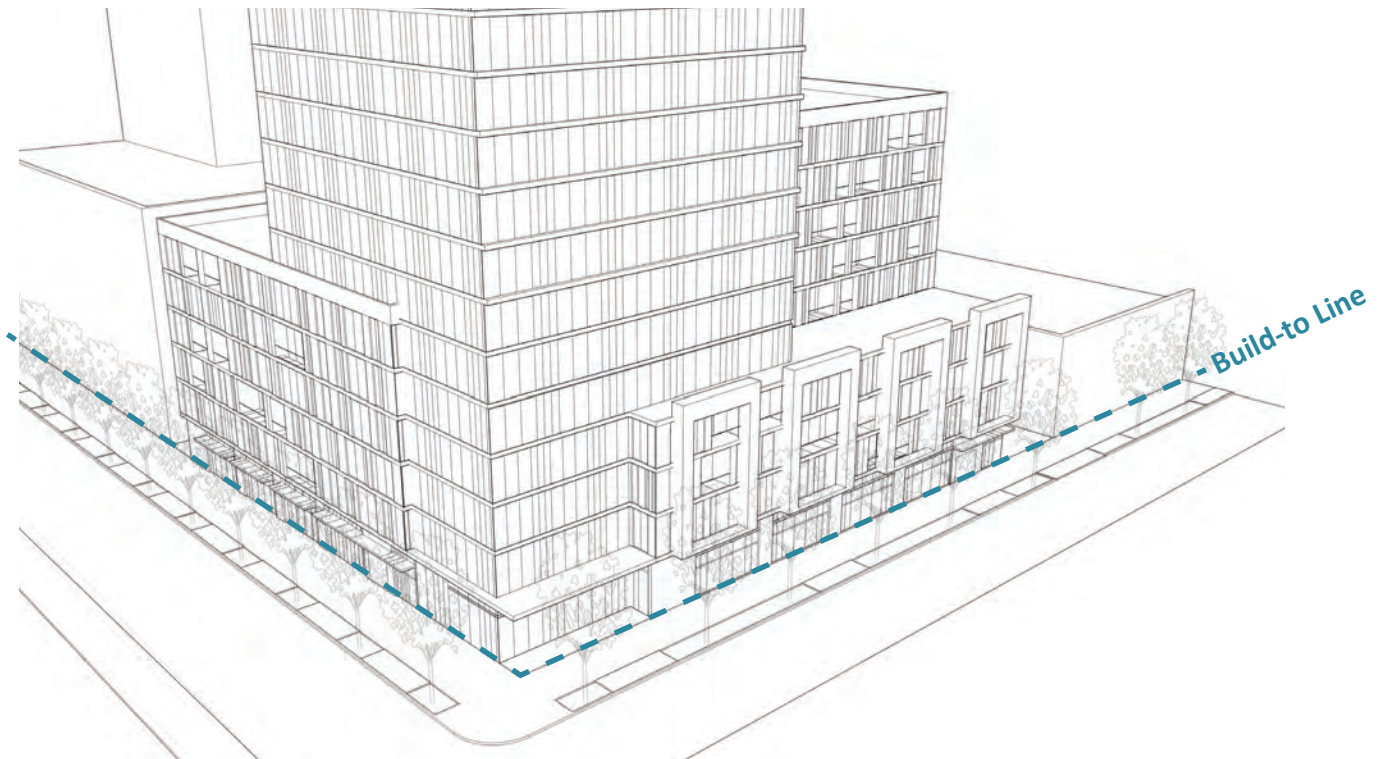
Intent: To create a continuous street wall to frame the sidewalk and create a more comfortable outdoor room for pedestrians to encourage walking throughout the downtown.

Guidelines:

- A. Place the facade of the building base along the recommended build-to-line to create a continuous street edge.
- B. Buildings taller than 200 feet that do not step back the upper floors should have a build-to-line of at least 20-30 feet.
- C. Where existing building lines for adjacent properties are set back more than the recommended build-to-line, buildings may be placed to align with this existing building line as long as it is within 5 feet of the recommended build-to line.
- D. Exceptions to the building placement guidelines include through-block connections and open spaces recommended in the sector plan, entrances and articulation for architectural interest.



*The building base of Eleven 55 Ripley in Silver Spring creates a continuous edge along the sidewalk at a low-rise scale.
Source: Shalom Baranes Associates Architects*



2.4.3 Base: Street Activation

Intent: To encourage pedestrian activity by providing ground-floor and base design elements that engage with the sidewalk environment.

Guidelines:

- A. Provide frequent entries, transparency and operable walls where possible to encourage visual and physical connections between the ground floor and the public sidewalk. Avoid long blank walls along the sidewalk.
- B. Orient private balconies and terraces toward the street to encourage an interface between the private and public realms and to create eyes on the street.
- C. Include elements such as textured materials, awnings, plantings, signage and seating to create a visually engaging and inviting building edge to frame the sidewalk and create stopping points to relax, gather and socialize.
- D. Place particular focus on active ground floor design along the portions of streets identified as the recommended retail nodes in the *Retail Planning Strategy for the Downtown Bethesda Plan*.



Operable walls that open to the street, along with various materials and textures, create an inviting and visually-engaging sidewalk environment for pedestrians.
Source: David Baker Architects

A. Provide frequent entries and ground floor transparency.

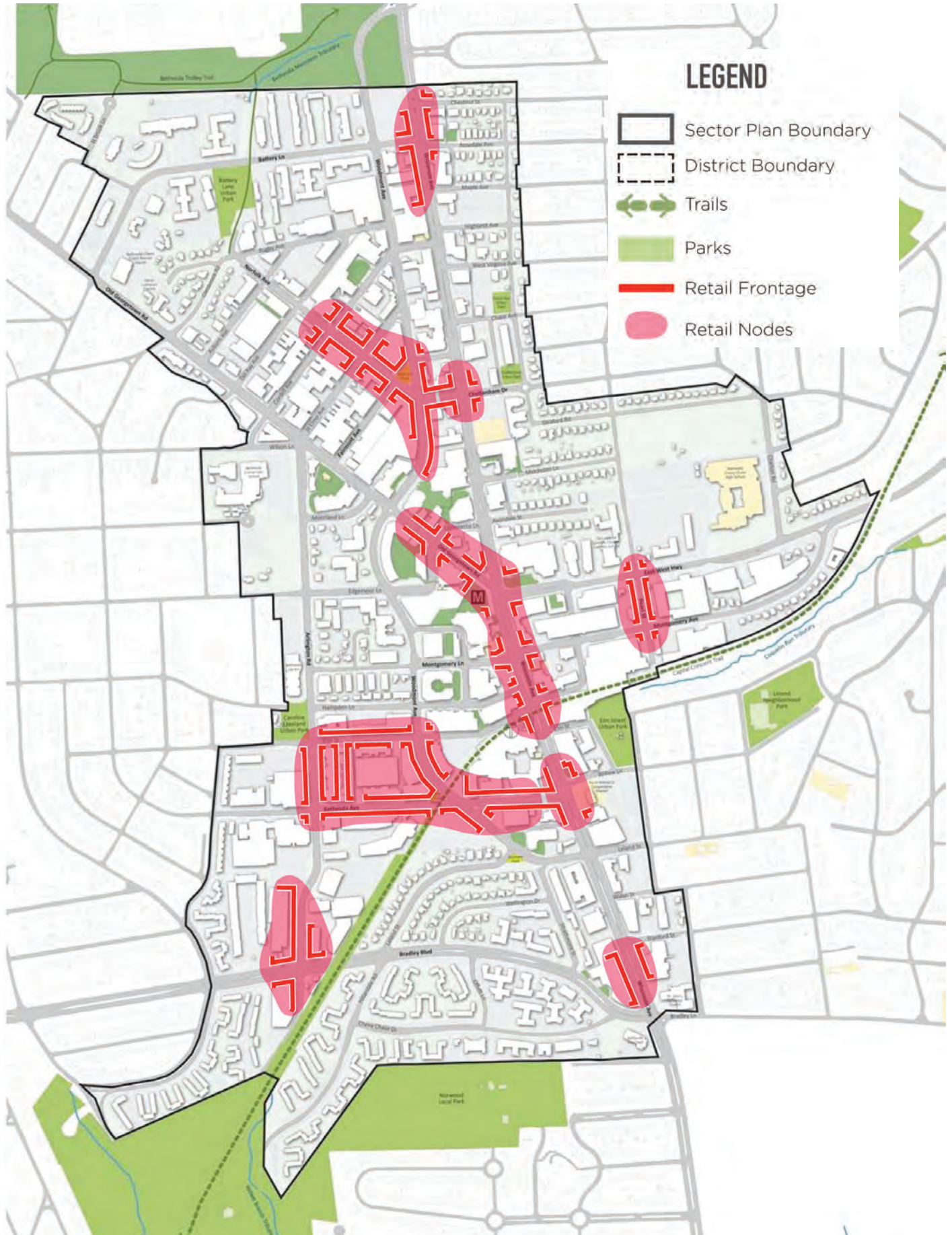
B. Orient balconies and terraces toward the street.

C. Include elements such as textured materials, awnings, signage, plantings and seating.



Commercial ground floor activation

Figure 2.10: Recommended Retail Nodes



2.4.4 Base: Variation and Articulation

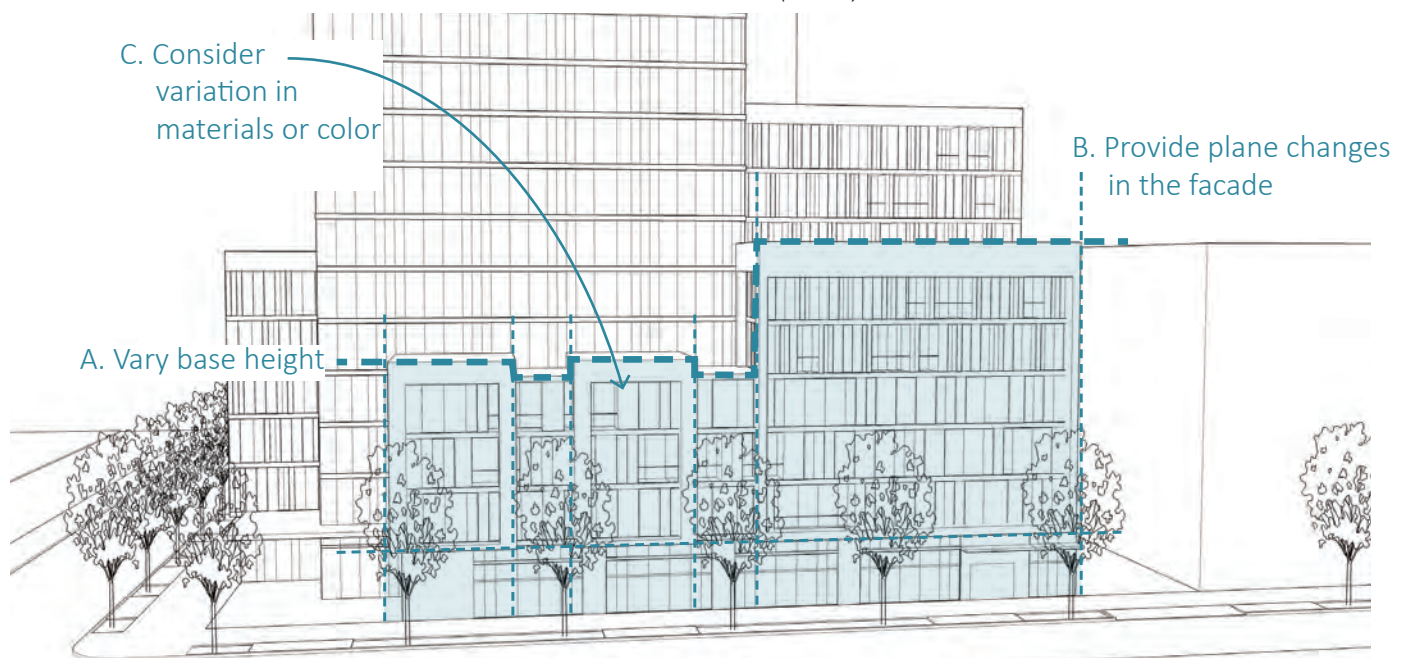
Intent: To ensure that facades are not exceedingly long, uninterrupted and rigidly uniform. These variations break up the mass of large buildings, add visual interest and promote human-scaled lower stories to relate to pedestrians.

Guidelines:

- A. Vary base height up to the maximum height designated by the street type. This variation should respond to the street character and typical widths, heights and modulation of existing buildings to create a contextually sensitive building wall along the street.
- B. Provide plane changes in the facade that create significant vertical and horizontal breaks, and shadow lines on the facade.
- C. Consider variation in building materials or color to add texture to lower floors most visible to those at pedestrian level.
- D. Avoid cantilevering the majority of the building mass over the Frontage Zone, public sidewalk or public open space to prevent interfering with street trees and blocking access to sunlight and sky views for pedestrians.



*Building bases with variation in height and articulation can break up a large building, and can also reflect the modulation and character of adjacent structures.
Source: Hariri Pontarini Architects (above), Google Street View (below)*



2.4.5 Corner Treatments

Intent: To anchor and frame street intersections with a continuous building wall or unique design features.

Guidelines:

- A. Provide signature design elements on prominent corners or intersections as focal points. These prominent locations include sites adjacent to open spaces, with the tallest building heights and buildings that terminate major view corridors such as East-West Highway, Norfolk Avenue, Old Georgetown Road and Bethesda Avenue.
- B. The full height of tall buildings may be expressed at corners, as a way to provide variation and increased verticality on buildings with tower step-backs.
- C. Establish block corners with architectural articulation and activating uses. While market forces will dictate actual locations where retail operations are feasible, anchoring key block corners by including activating uses such as retail is encouraged.



This innovative design treatment articulates the building and creates an intersection focal point.

Source: OMA



The curved corner along this major Bethesda Row intersection enhances pedestrian flow and provides an active ground floor.

2.4.6 Tower: Separation Distance

Intent: To allow access to light and air, limit the impact of shadows on the public realm and reduce the extent of large blank walls as new buildings develop at or near the property line.

Guidelines:

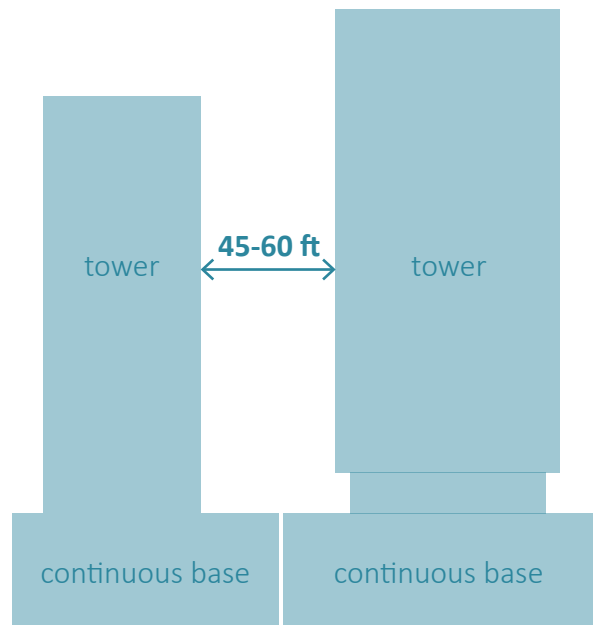
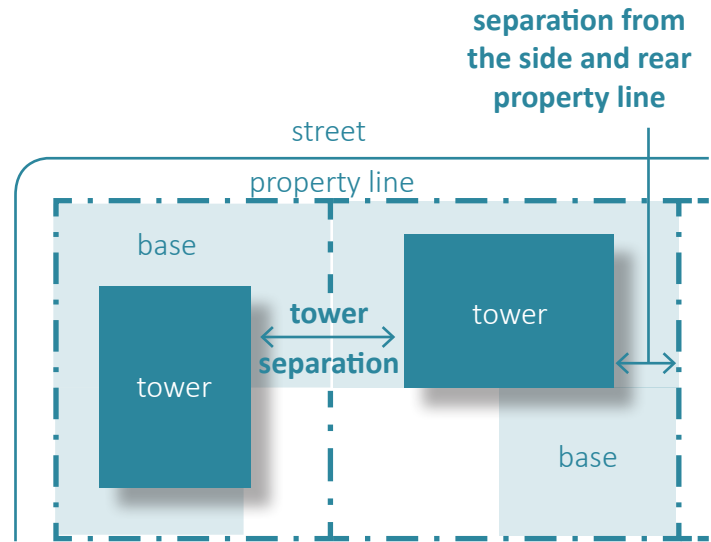
- A. Separate tower floors at least 45 to 60 feet (22.5 to 30 feet from the side and rear property lines).
- B. Provide a continuous building base along the lower floors.
- C. Avoid building towers to the property line creating expansive blank party walls that are imposing on the pedestrian environment.

Alternative Treatments:

Buildings below 120 feet or with limited property size/width/depth may reduce tower separation or consider party walls. If party walls are necessary, mitigate their visual impact with elements such as public art, lighting, texture and/or patterning that provide visual interest and are appropriate to the context and architecture of the building.

Where existing neighboring building towers are built to or close to the property line, new development should aim to achieve the total tower separation where possible. However, at a minimum, the new building tower levels should provide the separation distance indicated in *Guideline 2.4.6 A* from the side and rear property lines, except where building to the lot line could better address an existing blank wall condition.

Varied geometry in a building's upper floors, and facade modulation between buildings can also be used as methods to increase the perception of tower separation and allow access to light and air.



2.4.7 Tower: Step-Back

Intent: To provide a human-scaled building edge along the street that enhances pedestrian comfort and access to sky views. In districts with mostly low to mid-rise buildings, the step-back enables new tall buildings to better relate to existing context and maintain a similar street character.

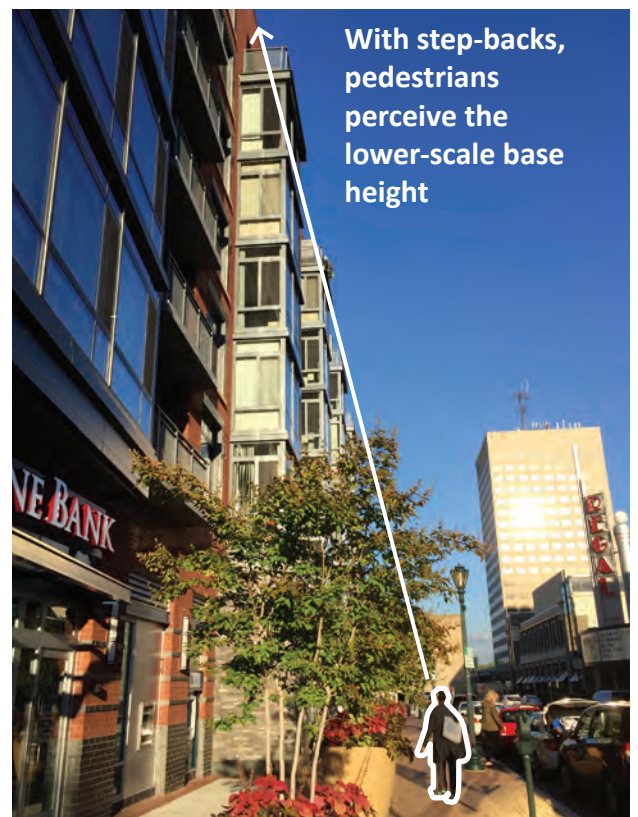
Guidelines:

- A. Retain a tower step-back across the majority of the building frontage. The building's full height may be expressed to the ground on important corners, to mark primary entryways or to balance the massing composition with vertical elements.
- B. Encourage undulating, curved or angled tower step-backs if the average step-back meets the guidelines for the street type. This expressive geometry can increase visual interest on prominent sites near major open spaces and corners.
- C. Allow balconies to encroach in the step-back if they do not significantly add to the perceived bulk and mass of the building's upper floors.

Alternative Treatments:

Though step-backs are one of the preferred methods to reduce tower bulk, especially on small neighborhood street types, alternative methods are outlined in *Section 2.4.8 Tower: "Menu" of Methods to Reduce Bulk*. These alternative methods particularly apply to buildings lower than 90-120 feet as noted in *Section 2.1 Street Types*, or to sites with limited size or property depth from the street.

In cases where a step-back is not provided, another method to relate to the context of adjacent building heights and base conditions is with a change of materials or clear regulating lines.



This residential development in Rockville illustrates the relationship between the pedestrian and the building step-back.

Source: The Upton (above)

2.4.8 Tower: “Menu” of Methods to Reduce Bulk

Intent: Downtown Bethesda is an important location in Montgomery County for increased building heights to accommodate future growth. However, collectively, buildings at taller heights can be an imposing presence on the public realm by casting large shadows, limiting sky views and creating an uncomfortable scale for pedestrians.

A. Limit Tower Floor Plate

Reduced tower floor plates limit shadows on the public realm and allow access to sky view while also improving the quality of the building’s indoor environment.



B. Use Unique Geometry

Varied geometry adds visual interest and helps to reduce the perceived bulk of a building’s upper floors. Angled and curved facades allow a building to be viewed dynamically from different vantage points. They can enhance privacy between towers in close proximity by directing views away from nearby windows.



C. Vary Tower Heights

Whether creating a large development with several towers, or an infill development between multiple existing towers, variation in building height can reduce the imposing massing of several large structures built adjacent to each other.



There are several ways to reduce the actual bulk of a building's upper floors or to creatively reduce the perceived bulk of the building. Below is a menu of design techniques that can be used to sculpt building towers and achieve a varied skyline responsive to human scale. Every project is not required to apply every method; however, several should be used in combination to best meet the guideline intent.

D. Modulate and Articulate Facades

Techniques to break up large facades and reduce perceived building bulk include shifts in massing to allow for upper floor terraces, green roofs and balconies; changes in facade planes; and varied fins, frames and mullions to add depth to glass facades.



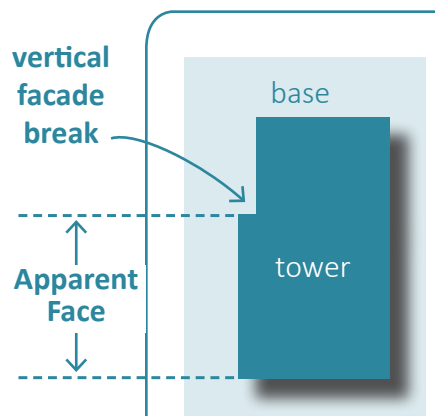
E. Vary Tower Placement and Orientation

Similar to variation in tower height, variation in tower placement and orientation can increase perceived separation between towers, reduce the perceived imposing massing of several adjacent towers and increase privacy by orienting views in different directions.



F. Limit Apparent Face

The apparent face is the length of a facade plane that is unbroken by vertical changes in depth. Limiting this length reduces the perceived bulk of a long building facade.



2.4.9 Top: Tower Top

Intent: The building top or cap contributes to the skyline, adding visual interest and shaping the image of Bethesda from afar. Tower tops should be carefully considered on prominent sites, including those with the tallest building heights, locations adjacent to major public open spaces and those that terminate views.

Guidelines:

- A. Encourage unique design of tower tops that can enhance the image of Bethesda as an innovative downtown, welcoming new businesses, residents and visitors.
- B. Taper tower tops where possible to reduce the perceived bulk of tall buildings.
- C. Integrate energy efficiency into the design of tower tops, including solar panels and passive heating and cooling elements.
- D. Consider the views of the rooftop composition from adjacent buildings when designing building tops.
- E. Not all tall buildings should have a sculptural top. However, mechanical penthouses and rooftop amenity spaces should in all cases be designed to harmonize with the overall building composition.
- F. Enclosures for rooftop amenity spaces should either contribute to the creation of expressive tops, or otherwise be set back from the roof line and limited to a portion of the roof area so as to not be perceived from surrounding streets and public spaces.



This curved and tapered top adds a unique element to the skyline.



*The form of the tower top for this Pittsburgh office building is part of the energy efficient solar chimney design.
Source: Gensler*

2.4.10 Retrofitting Existing Buildings

Intent: Bethesda has many buildings that are unlikely to be redeveloped for many decades, but that are in need of retrofits to change the building use, add additional floors to accommodate expansion or provide a face-lift to attract new tenants. Retrofits of existing buildings are encouraged because they maintain the existing scale and character of established districts while breathing new life into older building stock.

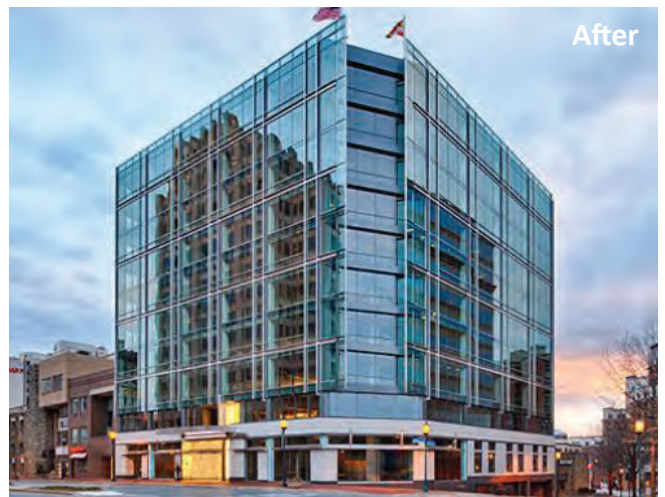
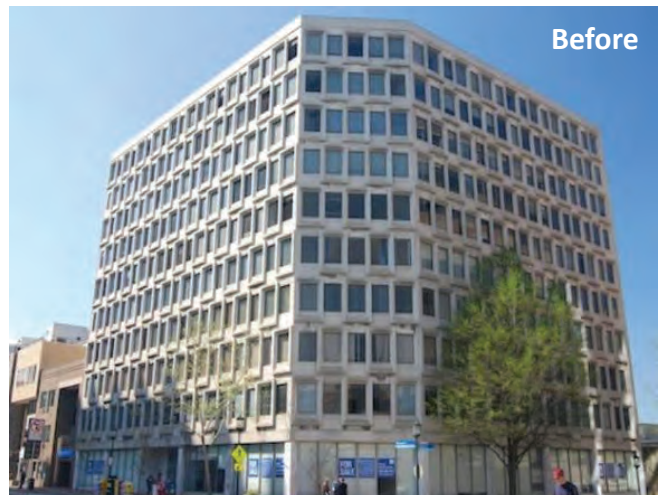
Guidelines:

- A. Integrate elements such as new materials, transparency, color and enhanced landscapes in retrofits of large buildings with imposing massing and bulk. These elements create human-scaled details that can add visual interest and provide a more inviting pedestrian environment.
- B. Consider ground-floor retrofits with liner retail or other active uses for existing buildings and parking structures with a poor relationship to the sidewalk.
- C. Retrofitted buildings that add additional floors should not be required to step-back upper floors if infeasible due to existing structural design.



The Octave in Silver Spring is a retrofitted office building now used for residential condos.

Source: Octave 1320



7550 Wisconsin Avenue is a renovated and re-skinned office building that is now LEED Gold certified.

Source: Clark Construction

2.4.11 Bird-Safe Design

The windows, doors, and arches of buildings can be deadly obstacles for birds causing hundreds of millions of bird collisions annually. Glass is transparent to birds. Reflections of the sky, vegetation, clouds, water, and branches lure birds into the glass causing mortality and injury.

Intent: To design glass buildings to protect local and migratory birds from deadly strikes. Integrate elements into the building and site design to warn birds before they collide.

Guidelines:

A. Glass Coverage and Glazing

- Patterns on Glass: Ceramic dots, or frits, can be screened, printed, applied between layers of insulated glass to reduce transmission of light and prevent bird collisions. These can be applied in different colors and patterns to work effectively.
- Angled Glass: Not as effective as other strategies, angled glass at 20-40 degrees has resulted in reduced mortality.
- Window Surfaces: New one-way transparent opaque films and window surfaces allow sunlight to pass through windows while reducing reflectivity.

B. Architectural Features

- Awnings, Louvers and Overhangs: When designed to eliminate reflections and shadow glass these architectural features have shown to reduce bird collisions.
- Balconies and Balustrades: Along with providing outdoor spaces for humans, balconies and balustrades can block window reflection.
- Opaque and Translucent Glass: Frosted, colored, opaque, or stained glass have proven to be significantly successful bird deterrents.

C. Facade Treatments

- Screens: Screens can be integrated into facade elements without blocking view or light and are highly effective in protecting birds.

- Grilles: Horizontal or vertical grilles can be incorporated into the aesthetic and design of windows.
- Shutters and Shades: External shutters and shades of various styles and colors enhance a building's aesthetic while reducing or eliminating reflections.

D. Lighting Treatments

Lights disrupt birds' orientation inhibiting them from seeing their navigational markers like the stars and moon. Night lights and up lights (lights pointing upward) can entrap birds reluctant to fly from a lit area into a dark one.

- Eliminating unnecessary lighting is one of the easiest ways to reduce bird collisions, with the added advantage of saving energy and expense.
- Choose down-lighting over up-lighting to keep from directing light into the night sky.
- Minimize perimeter and vanity lighting and consider filters or special bulbs to reduce red wavelengths where lighting is necessary.
- As much as possible, lights should be controlled by motion sensors.
- Lights Out: Turn lights out visible from the outside during spring and fall migration periods.

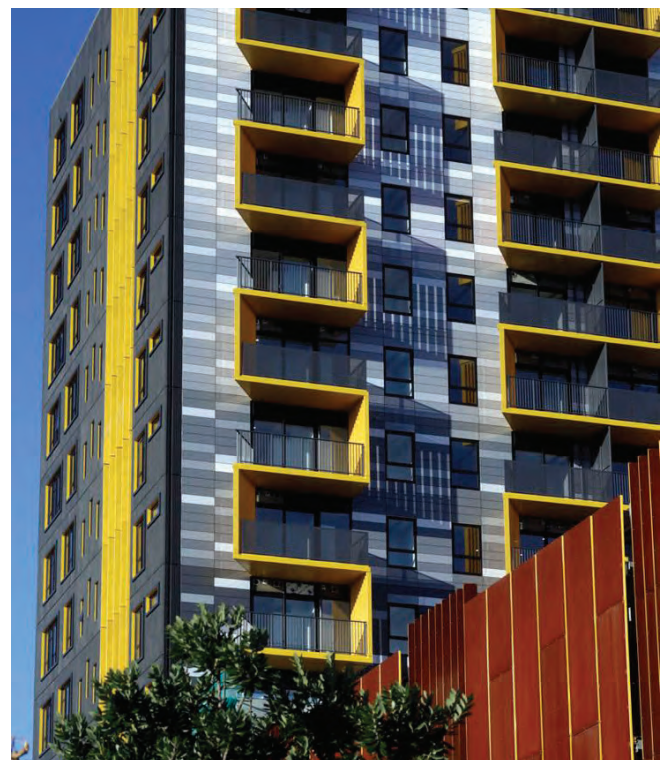
E. Site and Landscape Design

- Obtain USGBC LEED Green Building Rating Points from the category of "Bird Collision Deterrence".
- Glass windows should not reflect nearby or site vegetation, particularly large, mature trees and water. Where this is not feasible, use window treatments outlined above.
- Use soil berms, furniture, landscaping, or architectural features to prevent reflection in glazed building facades.
- Avoid up-lighting rooftop antennas and tall equipment as well as decorative architectural spires.



Patterns on this glass building reduce the likelihood of bird collisions.

Source: naturalimages.net



Balconies provide shadows and limit reflections on glass to deter birds.

Source: Merchant Quarter Condominiums

2.5 Creative Placemaking

What is Creative Placemaking?



Source: Mithun

“In creative placemaking, partners from public, private, nonprofit and community sectors strategically shape the physical and social character of a neighborhood, town, tribe, city or region around arts and cultural activities. Creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire and be inspired.”

- National Endowment for the Arts

Sector plans have a long-range vision for public and private improvements typically over the next 20 years. However, in the short-term, there are many temporary solutions that Bethesda community stakeholders can achieve to improve the livability and enjoyment of the downtown through creative placemaking.

The Bethesda Urban Partnership and Montgomery County Department of Parks have spearheaded many of these types of events and opportunities for community gathering and interaction. Building on this momentum, the guidelines provide additional examples to inspire private landowners, community members, artists and public agencies to craft creative ways to use underutilized spaces, streets and other public open spaces. These strategies are particularly useful in the interim before larger development projects or capital improvement projects are completed.

Intent: Creative placemaking is intended to activate public spaces and underutilized spaces throughout Downtown Bethesda, to engage community members and visitors, and to provide opportunities for short-term improvements that enhance community quality of life.



*Outbox pop-up office in Downtown Silver Spring.
Source: Citylab*



*Public art installations encourage passers-by to look at their surroundings in a different light.
Source: illumni*



*Outdoor silent disco where people gather to dance while listening to the music on head phones rather than using a speaker system.
Source: pinterest.com*

Creative Placemaking in Streets



Source: bettercities.net (above), Inhabitat (below)

Medians, parklets and sidewalks are great opportunities to transform streets into truly public spaces for play, gathering and relaxing. Active streets can become destinations, enhance foot traffic to local businesses and provide additional outdoor spaces for residents of all ages.

Creative Placemaking in Parking Lots and Underutilized Spaces



Source: Sasaki

Portions or all of parking lots can be transformed into pop-up public spaces for interim or seasonal use or on weekends. Adding food trucks, seating, lighting and color can make parking lots and other underutilized spaces inviting and invigorate districts in the downtown that have less street activity, like the emerging Pearl District.

Creative Placemaking in Existing Parks and Open Spaces



Source: Delaware River Waterfront (above), Downtown Detroit Parks (below)

Creative interventions such as urban beaches, colorful lighting and hammocks can transform existing parks and privately owned public spaces into vibrant destinations in the downtown.

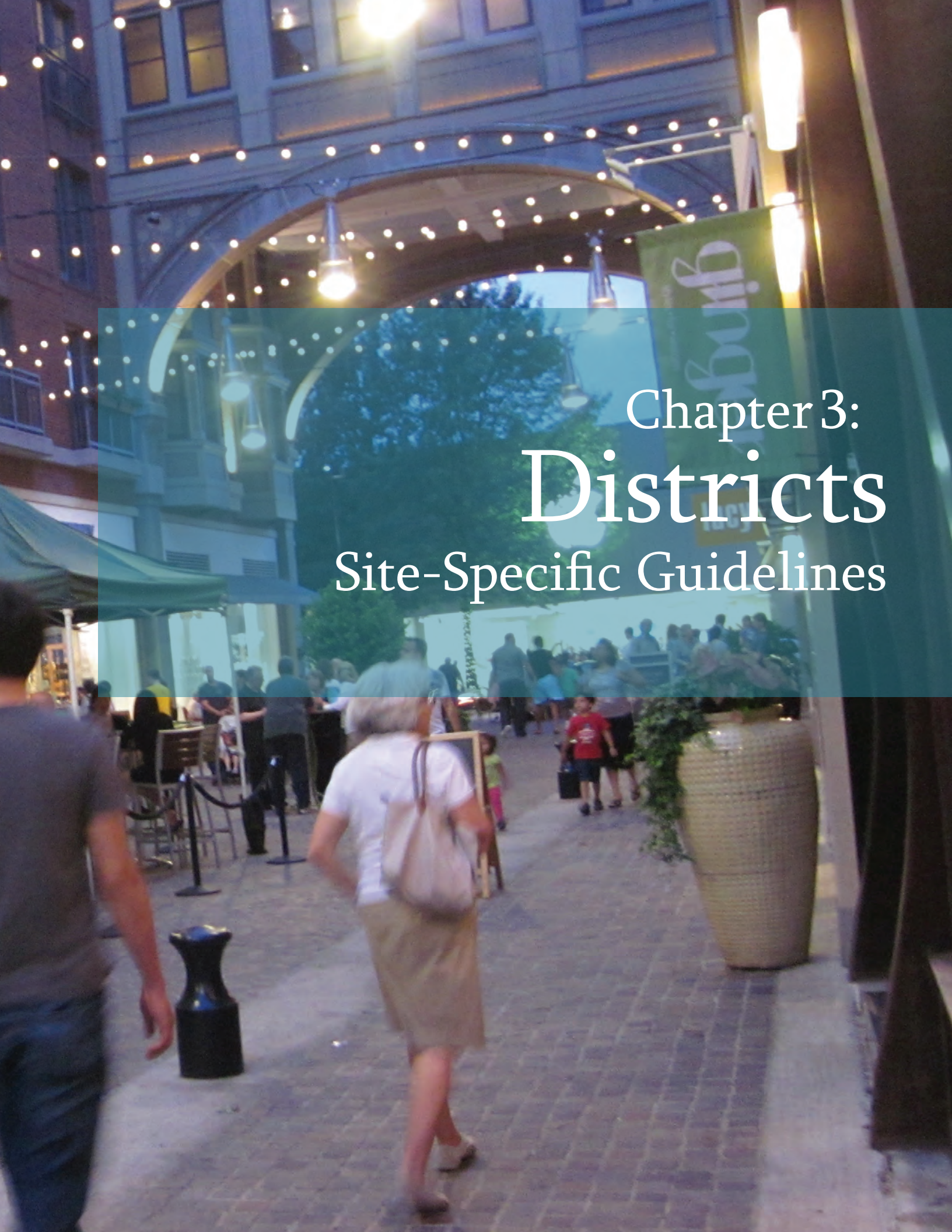
Creative Placemaking on Construction Sites



Source: Walking Men Worldwide (above), nyclovesnyc.blogspot.com (below)

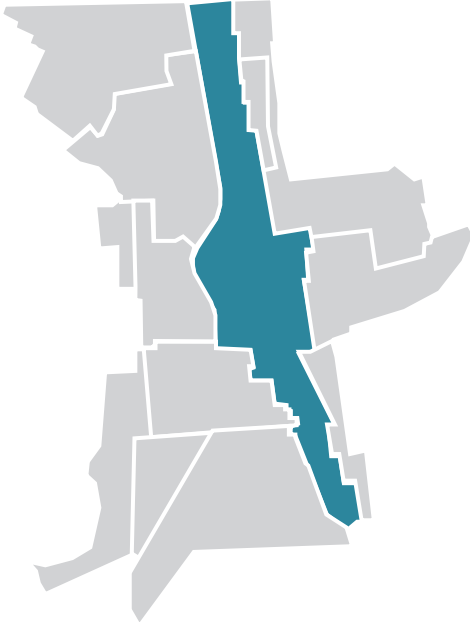
Construction has been and will continue to be a major part of life in Downtown Bethesda. However, there are ways to make construction sites less of an eyesore and, instead, a creative part of the urban landscape through public art.



A photograph of a pedestrian walkway at night. The walkway is paved with cobblestones and is lined with buildings. A large, arched structure with string lights hangs over the walkway. People are walking along the path, and there are outdoor seating areas with umbrellas on the left. A large, ornate planter is on the right. The text "Chapter 3: Districts Site-Specific Guidelines" is overlaid on the right side of the image.

Chapter 3: Districts Site-Specific Guidelines

3.1 Wisconsin Avenue Corridor



The Wisconsin Avenue Corridor District contains three key sites in the future development of Downtown Bethesda, including Metro Center Plaza, Veteran's Park Civic Green and the Farm Women's Market Civic Green. These sites are located in the areas of Downtown Bethesda with the tallest buildings, and where several of the primary links between downtown districts meet. Guidelines for these open spaces as well as the surrounding streets and buildings are important to ensure a balanced environment of inviting and connected public spaces in areas with the largest scale developments.

3.1.1 Metro Center Plaza

The Metro Center Plaza is centrally located, surrounded primarily by office development, and for the majority of the year is underutilized except for occasional events. There are many reasons this plaza has failed to become a vibrant public space. Currently, there is no incentive for transit riders to use the plaza because they often connect more efficiently through the back of the lower level bus bay to Bethesda Row and other destinations. The plaza also has many different levels and obstructing design elements that make it feel disconnected from the street.

As the first impression for visitors exiting the Metro station, this plaza and surrounding development should be enhanced as a gateway into Downtown Bethesda and a destination for those who live and work in the area.

Guidelines:

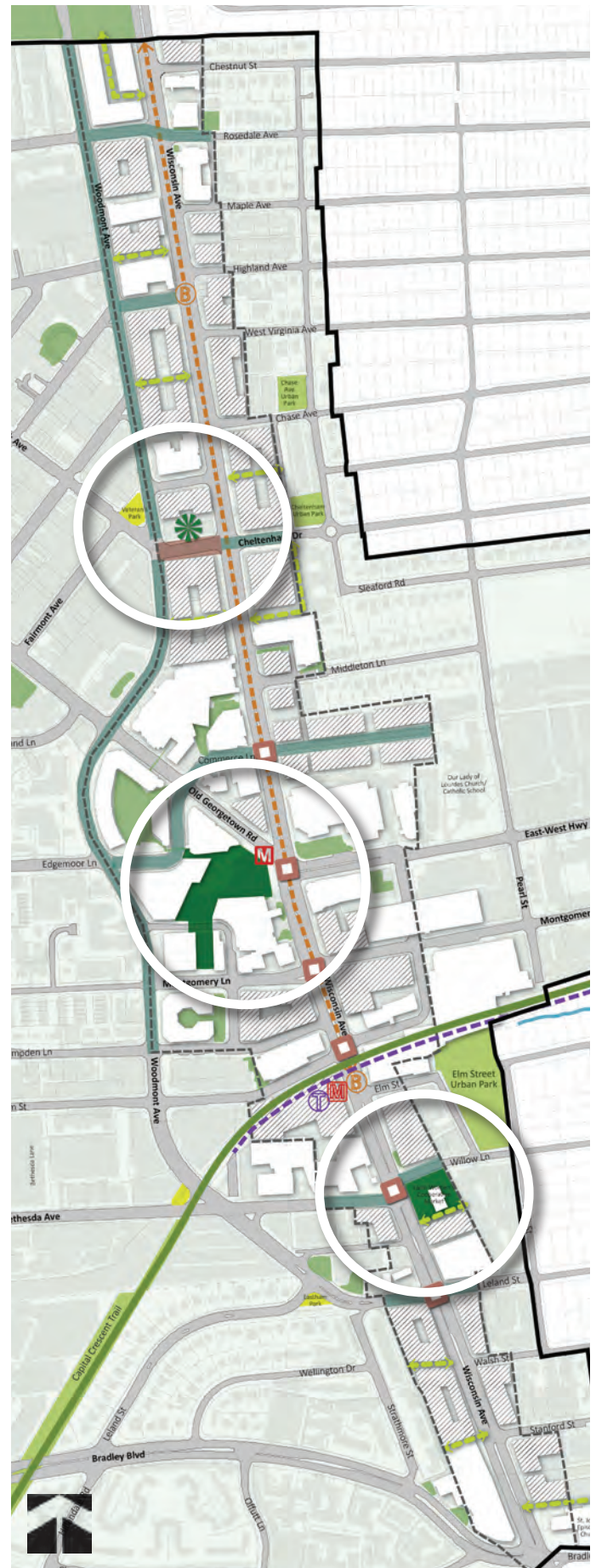
- A. Integrate a signature tall building to provide orientation to the symbolic center of Bethesda. This building does not need to meet recommended build-to lines if it creatively relates to the surrounding plaza and pedestrian connections.
- B. Design future buildings and building retrofits along the plaza with active, visible and accessible ground-floor uses.
- C. De-clutter plaza spaces by smoothing the grade and limiting large permanent furniture. The plaza

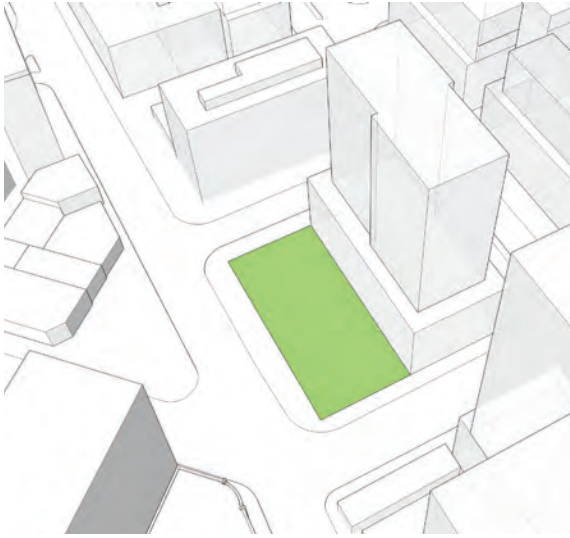
should be as close to the elevation of the public sidewalk as feasible to encourage continuous flow between the plaza and the street.

- D. Integrate green lawn areas and plantings for informal gathering and events.
- E. Create multiple access points to the Metro station and bus bay below to encourage transit users to come up to the plaza level. Utilize sculptural canopy structures to mark these entrances.
- F. Improve the bus bay through enhanced lighting, color and public art.
- G. Use creative wayfinding and public art as beacons to attract visitors.
- H. Encourage more temporary programming, such as events kiosks and educational opportunities, to draw visitors.
- I. Consider a destination use, such as an event venue or concert hall, to draw residents and visitors into the plaza space.

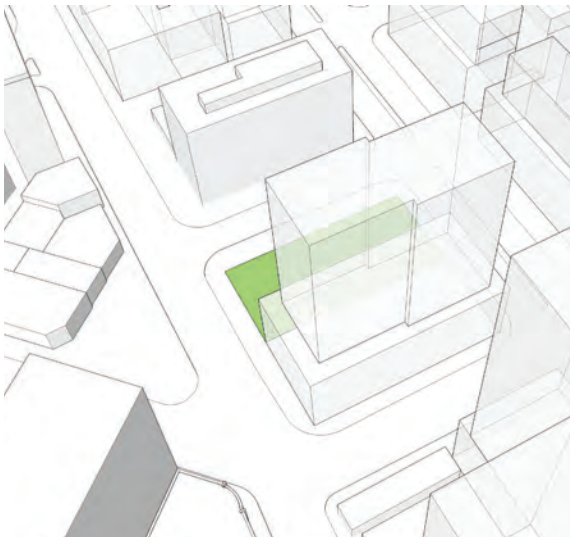


Figure 3.01: Wisconsin Avenue Corridor Key Sites

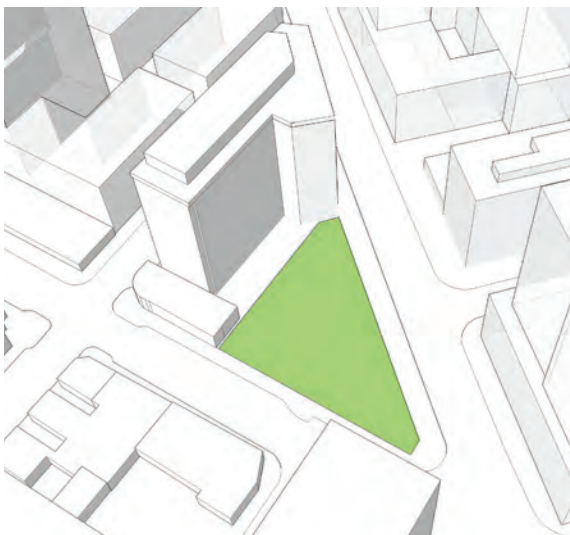




Option 1



Option 2



Option 3

3.1.2 Veteran's Park Civic Green

Veteran's Park Civic Green is envisioned as a green extension of the successful Veteran's Park public open space at the intersections of Woodmont Avenue, Wisconsin Avenue and Cheltenham Drive. This new park would expand the existing public space and could help link the established center of the Woodmont Triangle District and Wisconsin Avenue Corridor District.

Pedestrian and Bicycle Circulation

Guidelines:

- A. Continue the Norfolk Avenue shared street along the park's south side to create a link to the Woodmont Triangle district from Wisconsin Avenue.
- B. Ensure safe and comfortable crossings for pedestrians and cyclists across Woodmont Avenue.

Open Space

Guidelines:

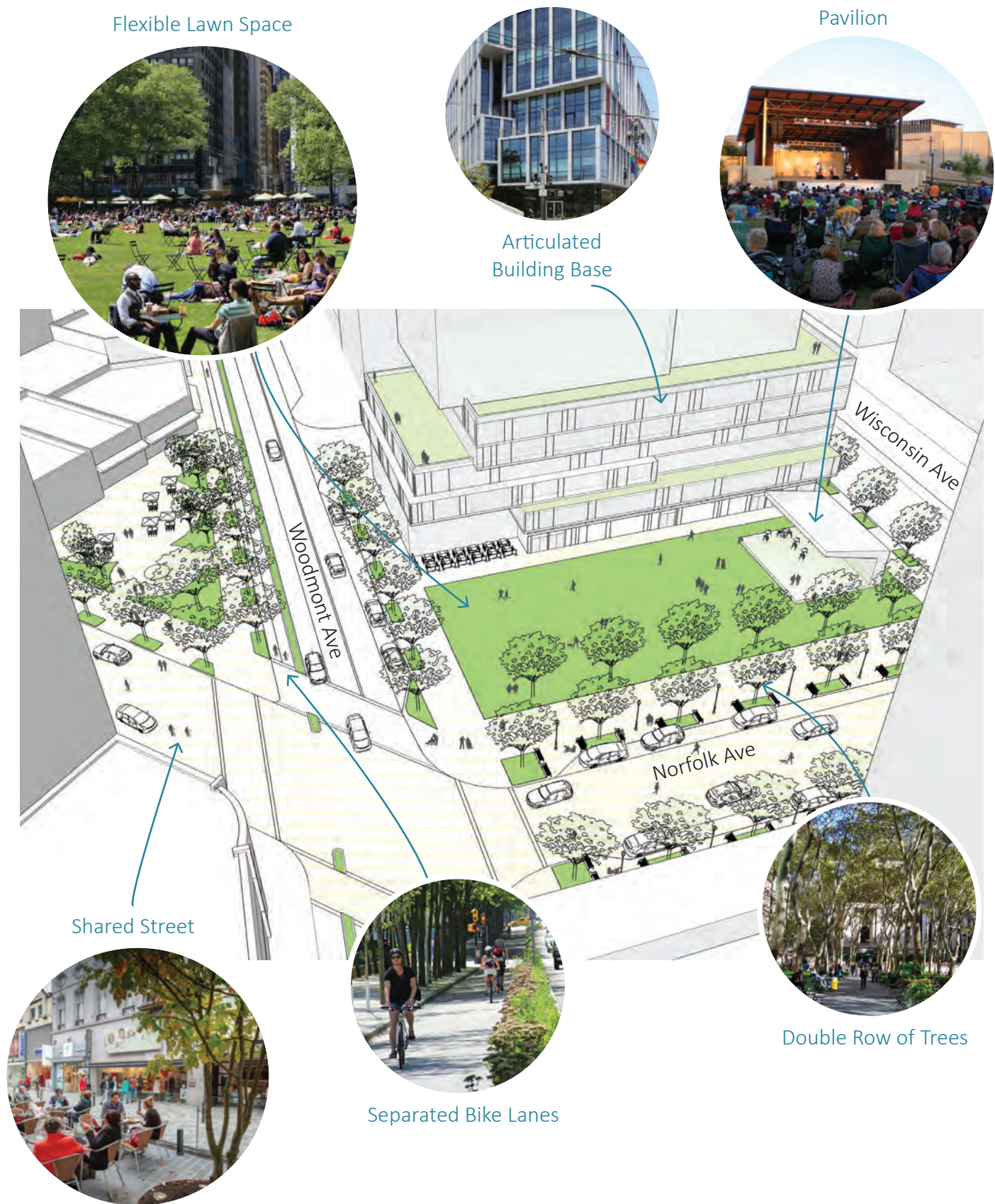
- A. Provide a large flexible green space that is level and visible from surrounding streets. The exact green space placement will be determined through the development review and parks acquisition process.
- B. Include a double row of shade trees along the park's street frontage as an inviting promenade and seating area.
- C. Protect the park from vehicular traffic while still allowing visibility from the street. A structure for events could provide this edge.

Building Design

Guidelines:

- A. Study the effects of shadows cast by new developments on the proposed park.
- B. Create active frontages, entries and ground-floor transparency in buildings framing the park and avoid blank walls.
- C. Orient terraces, balconies, and seating areas onto the existing Veteran's Park and proposed civic green.

Figure 3.02: Illustrative View of Veteran's Park Civic Green Option 4



3.1.3 Farm Women's Market Civic Green

This Civic Green is envisioned as a green open space next to the Montgomery Farm Women's Cooperative Market, which is a longstanding community landmark in the historic heart of Bethesda. This space terminates the view along Bethesda Avenue and would act as both a destination and a local gathering spot, providing a space for market customers to shop, eat and relax. It serves as an extension of Elm Street Park and the proposed Eastern Greenway. All improvements to the market site will be reviewed through the Historic Preservation Commission as the site is listed in the Master Plan for historic preservation

Pedestrian and Bicycle Circulation

Guidelines:

- A. Create a wide, tree-lined sidewalk along Willow Lane to connect to the greenway and surrounding neighborhoods.
- B. Provide a through-block connection between the Farm Women's Market site and new development to the south.

Open Space

Guidelines:

- A. Provide space for temporary outdoor market stalls along Willow Lane to activate this edge for pedestrians.
- B. Design a picnicking area with flexible seating and tables for market visitors.
- C. Provide a large flexible lawn space to the rear of the market along the Eastern Greenway to the extent feasible.

Building Design

Building design guidelines listed here apply to new development adjacent to the south side of the Farm Women's Market, not to development on the Farm Women's Market site.

Guidelines:

- A. Study the effects of shadows cast by new developments on the proposed park.
- B. Create a low-rise frontage with individual unit entries on development along the south edge of the civic green and step the upper floors back at least 15 feet.

Figure 3.03: Illustrative View of Farm Women's Market Civic Green

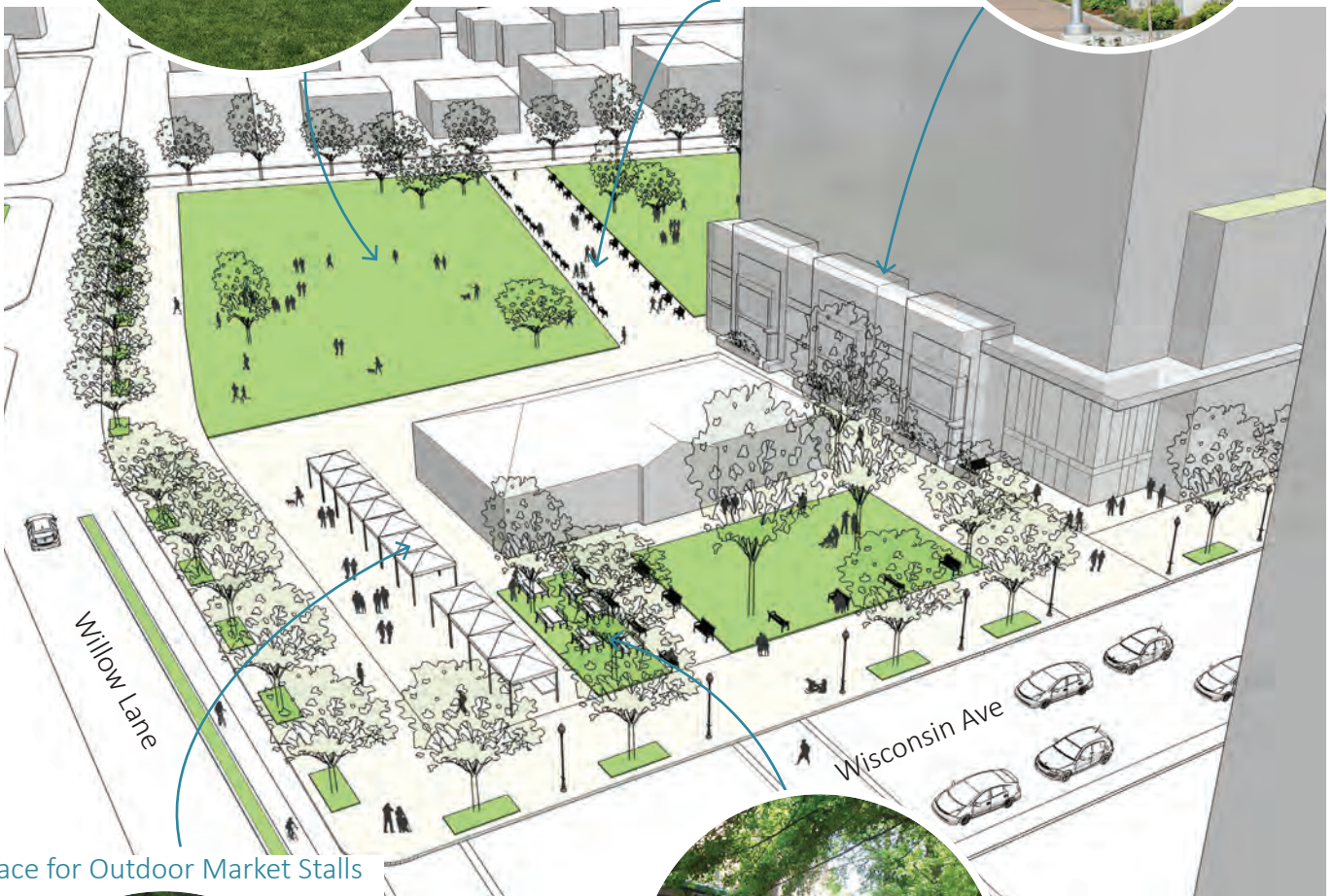
Flexible Lawn Space



Lowrise Frontage with Individual Unit Entries



Through-Block Connection



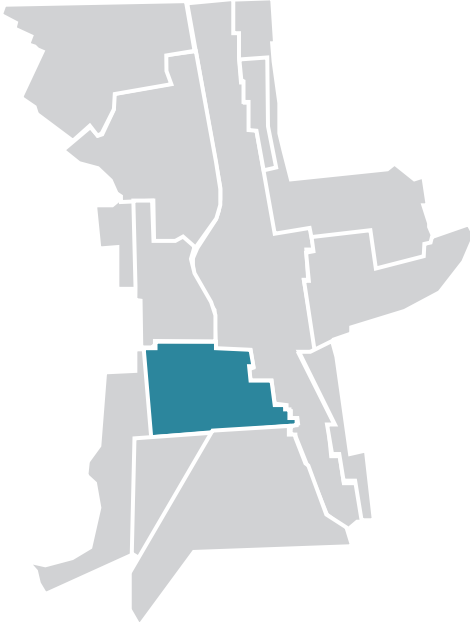
Space for Outdoor Market Stalls



Picnicking Area



3.2 Bethesda Row District



3.2.1 Capital Crescent Civic Green

The Capital Crescent Civic Green is envisioned as the civic green for the Bethesda Row District and the western gateway of the Capital Crescent Trail. It will build on the success of the existing small plaza at the corner of Woodmont Avenue and Bethesda Avenue, and act as an outdoor civic center for the Bethesda Row District.

The Capital Crescent Trail Civic Green would provide an open space with a flexible lawn area. This green would accommodate community events and programming; be a meeting spot for moviegoers, cyclists and restaurant patrons; and serve as a space for casual picnicking, reading and sunbathing.

The diagram below illustrates recent and planned development around this central space as well as major infrastructure projects, including the Purple Line and Metro station entrances as well as the Capital Crescent Trail connection.

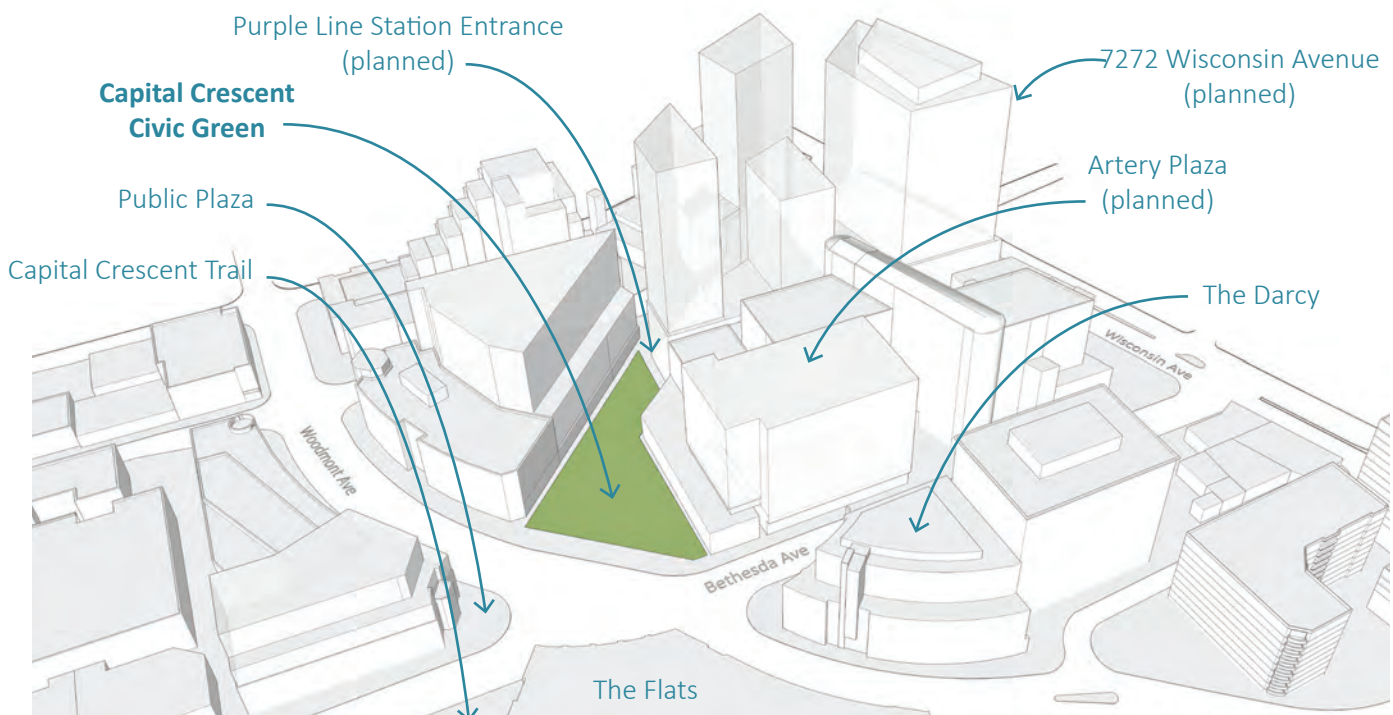
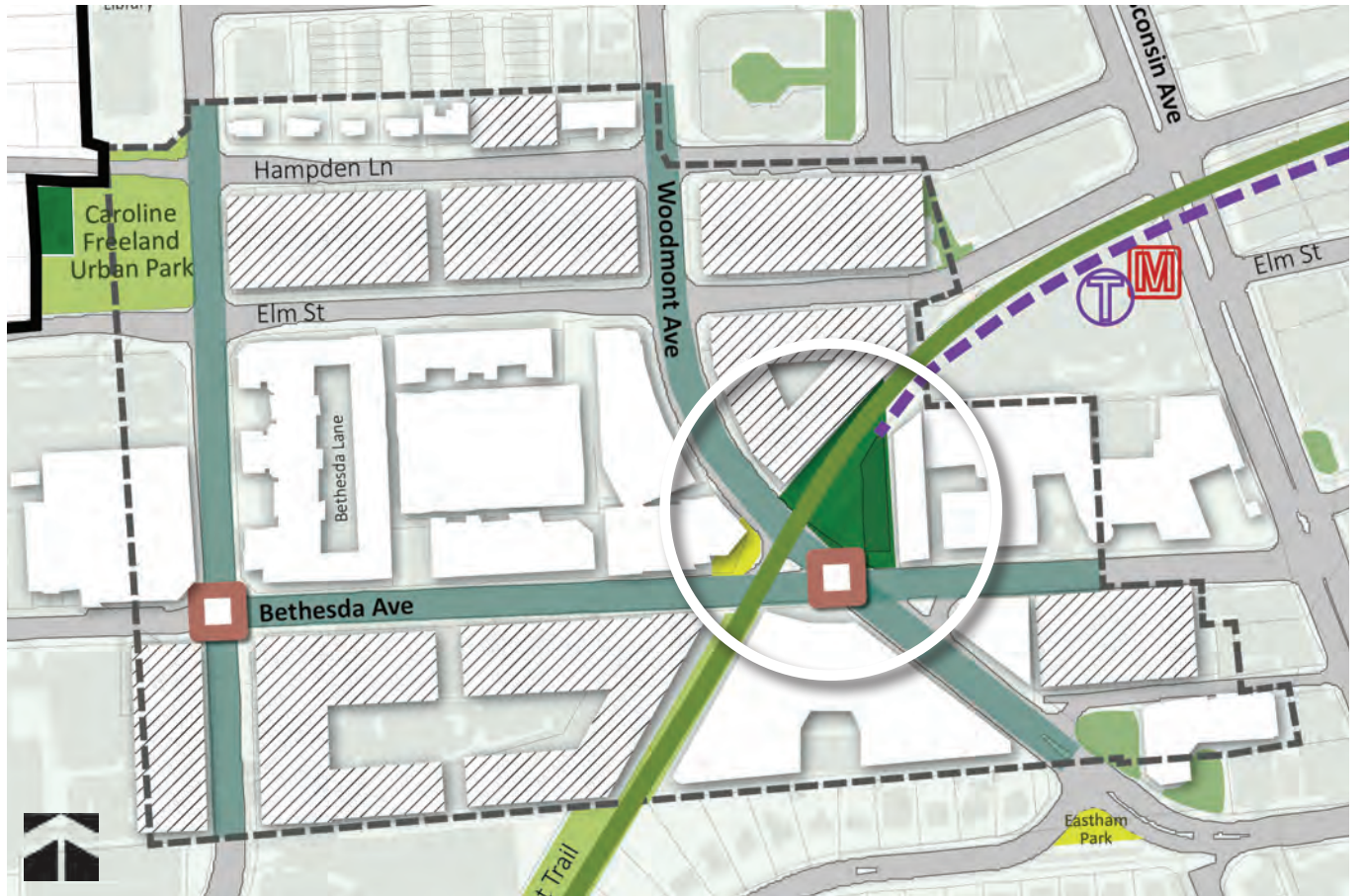
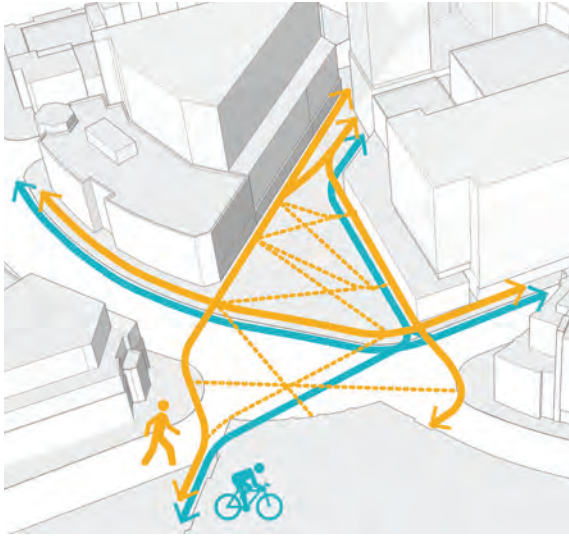


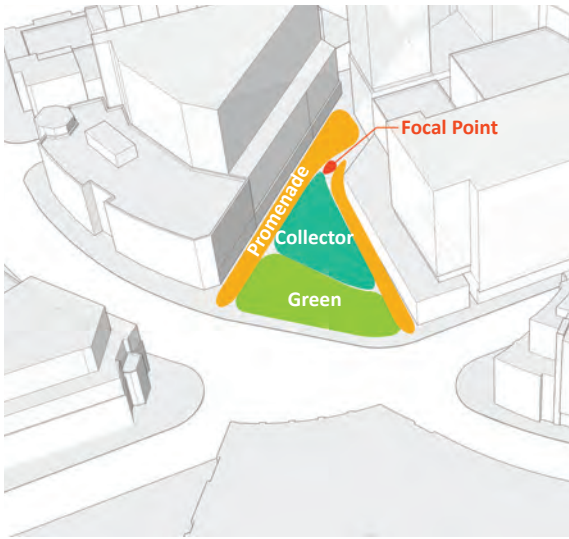
Figure 3.04: Bethesda Row District Key Site



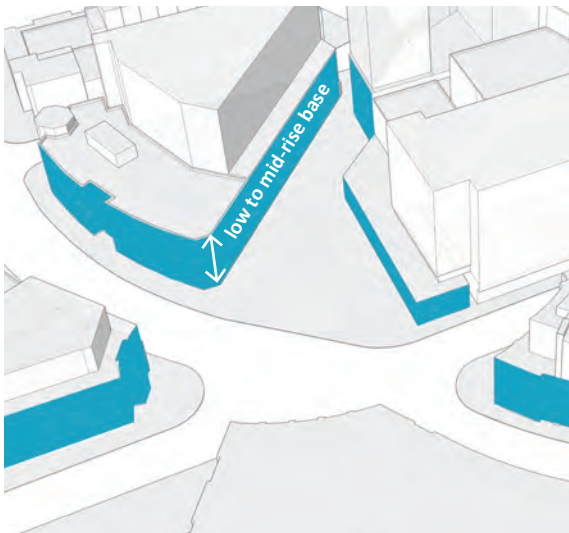
- | | | | |
|----------------------------------|---------------------------------|--|-------------------------------------|
| Sector Plan Boundary | Trail | Recommended Bike Priority Street + Canopy Corridor | Recommended/Enhanced Open Space |
| District Boundary | Metro Station | Recommended Public Connection | Potential Open Space (Location TBD) |
| M-NCPPC Park | Proposed Metro Station Entrance | Recommended New Street | Illustrative Potential Development |
| County DOT Owned Public Space | Proposed Purple Line | Recommended Shared Street | |
| Privately Owned Public Use Space | Proposed BRT | Enhanced Intersection | |



Pedestrian and Bicycle Circulation



Open Space Zones



Building Design

Pedestrian and Bicycle Circulation

Guidelines:

- Improve the intersection of Woodmont Avenue and Bethesda Avenue to be easily crossed by pedestrians and cyclists and pave the intersection as a plaza extension of the civic green.
- Facilitate pedestrian circulation to the planned Purple Line station and surrounding retail through a large promenade along the east side of the civic green and multiple paths crossing the green.

Open Space

Guidelines:

- Create a cohesive, singular green space despite fractured ownership of the property proposed for the civic green.
- Provide a shaded green area along Woodmont Avenue with trees and subtle changes in elevation.
- Design a central collector space with paved circulation to the movie theater, market building and other retail destinations. Balance the hardscape with green spaces, seating and a water feature between paths.
- Punctuate the space with a focal point, which could be a vertical public artwork.
- Preserve retail visibility from and across the civic green.

Building Design

Guidelines:

- Limit the frontage of buildings along the park to a low to mid-rise height and step back upper floors above this height by a minimum of 15 feet to maintain a relationship to the existing height and character of the Bethesda Row District.
- Improve and widen stair access to Elm Street and orient active ground-floor uses and transparency to this connection.

Figure 3.05: Illustrative View of Capital Crescent Civic Green

Building Step-backs

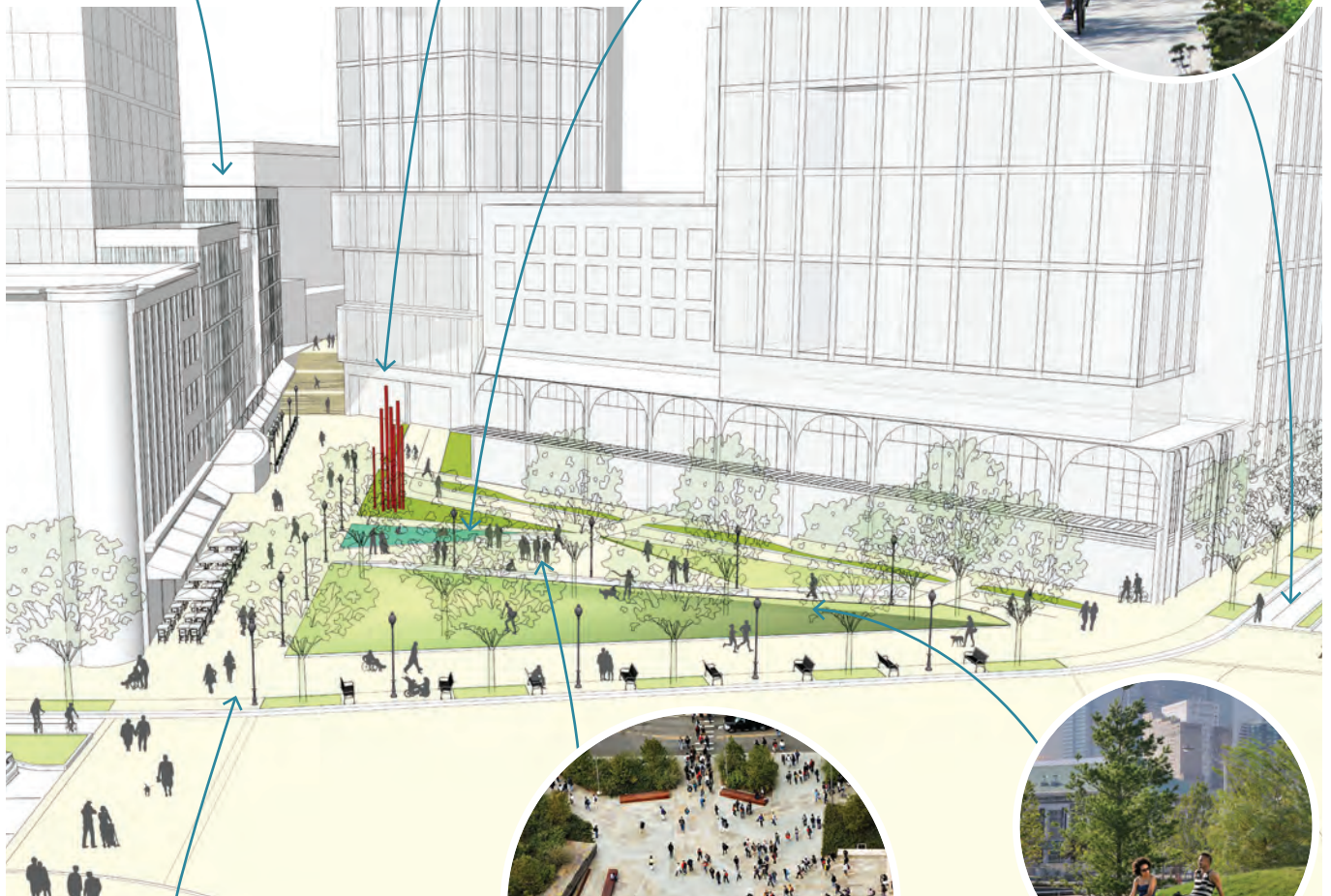


Focal Point



Splash Pad

Separated Bike Lanes



Promenade



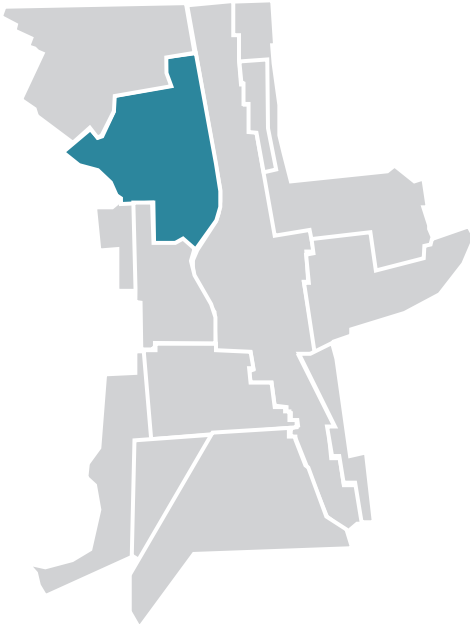
Central Collector



Shaded Lawn Mounds



3.3 Woodmont Triangle District



3.3.1 Norfolk Avenue

Norfolk Avenue is the main street for the Woodmont Triangle District and is primarily framed by one- to two-story retail structures with fine-grained and varied storefronts, adding visual interest and human-scaled details for those walking along the sidewalk. Design guidelines for this street are intended to balance large-scale residential infill development with existing context and character.

Guidelines:

- A. As recommended in the Sector Plan, step back buildings a minimum of 15 feet above a maximum 50-foot base to maintain the appearance of a lower scale street wall along Norfolk Avenue and to provide a continuous streetscape character for this primary pedestrian link between Veteran's Park and Battery Lane Urban Park.
- B. Increase public space for activities to create a vibrant streetscape environment through the creation of a shared street with continuous paving.
- C. Integrate increase tree canopy and stormwater management into the street design.
- D. Preserve street parking to provide loading and customer access to small businesses.

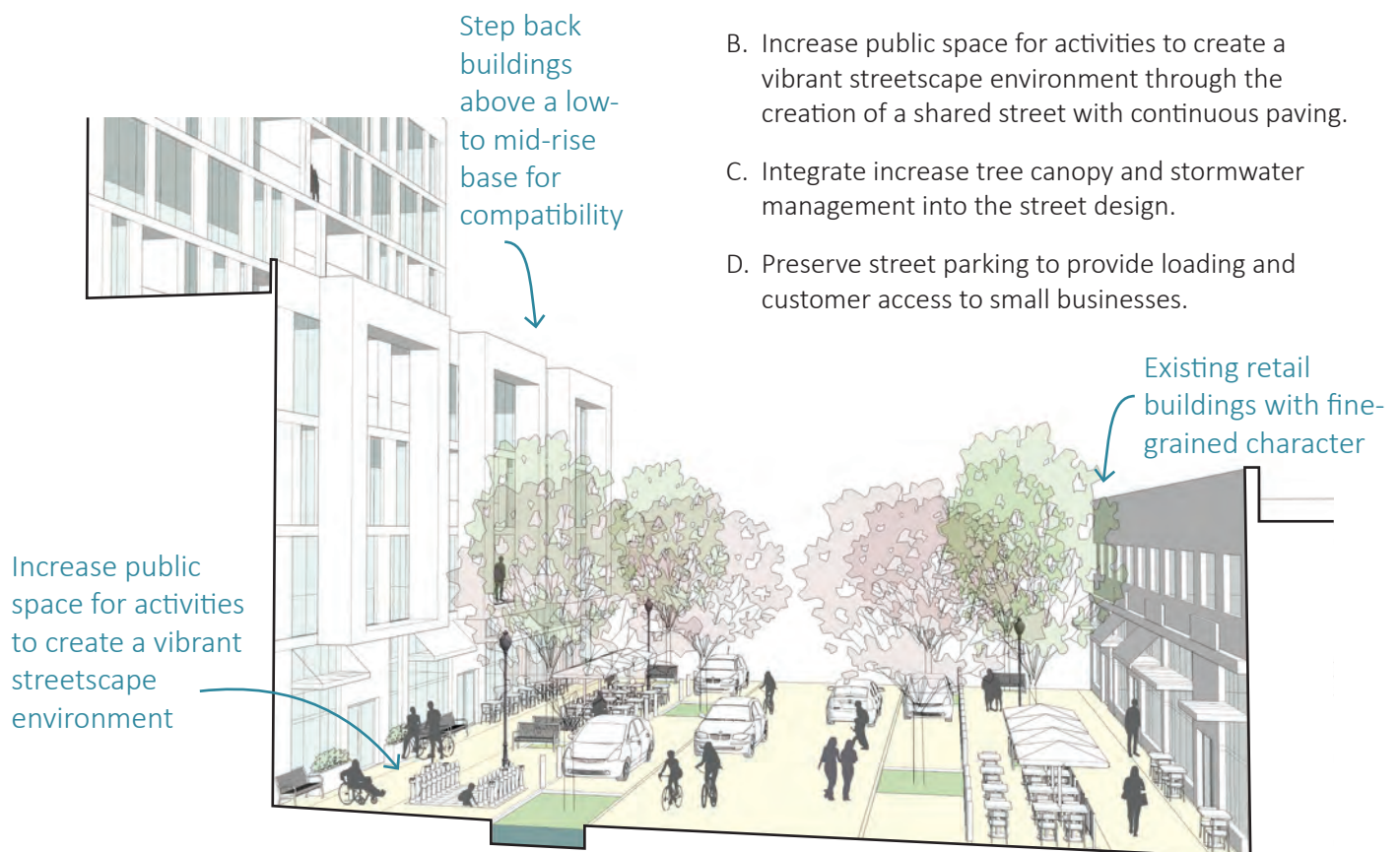
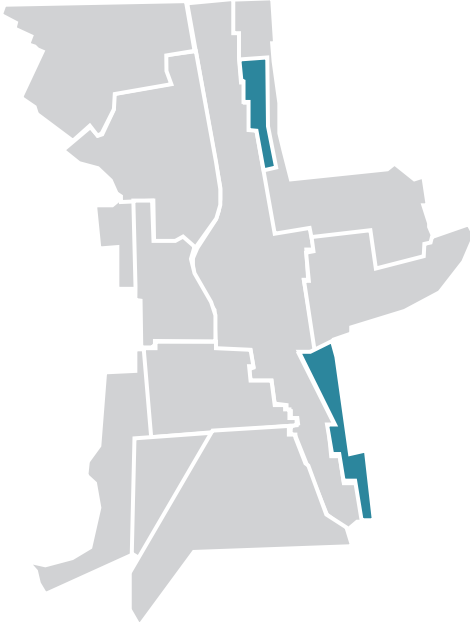


Figure 3.06: Woodmont Triangle District Key Site



3.4 Eastern Greenway Districts



3.4.1 Eastern Greenway

These parks are envisioned as destinations and pockets of larger green space along the edge of the downtown. Height limits and greenways will ensure compatibility, provide public open space, enhance connectivity and improve environmental quality.

Guidelines:

- A. As recommended in the Sector Plan, provide a greenway width that is equal to or greater than the amount of building height proposed. The minimum greenway width is 35 feet.
- B. Orient ground floor uses, entries, balconies and terraces to the greenway.
- C. Design greenways as primarily landscaped spaces with limited hardscape. Provide adequate lighting continuous pathways, seating and activity areas.
- D. Coordinate greenway design and transitions with adjoining properties.
- E. Avoid cutting driveways across the greenway where possible. If needed, consolidate vehicular access points and provide the minimum width driveway.

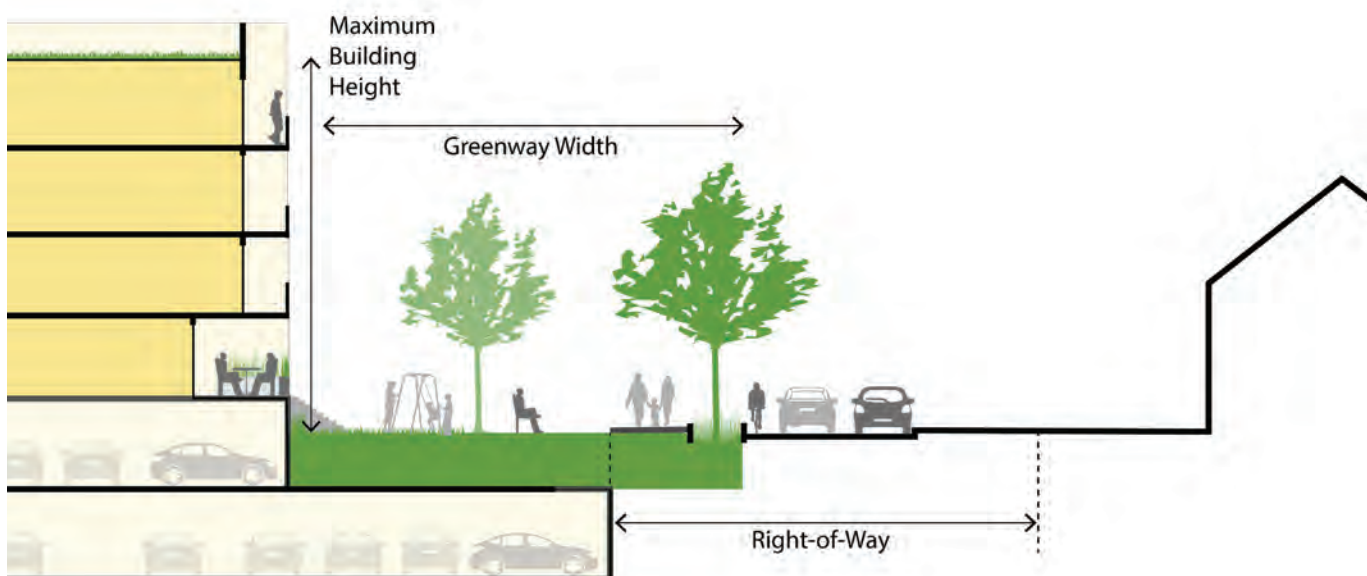


Figure 3.07: Eastern Greenway Districts Key Sites



Bethesda Downtown Plan Design Guidelines

Approved July 2017

M-NCPPC
The Montgomery County Planning Department
8787 Georgia Avenue
Silver Spring, MD 20910

MontgomeryPlanning.org

