



Image Credit: Fairfax County

4

BUILDING DESIGN

- 4A Building Placement
- 4B Building Form
- 4C Ground Floor Design
- 4D Building Modulation and Articulation
- 4E Building Signage
- 4F Building Lighting
- 4G “Back-of-the-House” Facilities and Equipment
- 4H Sustainable Building and Site Design

INTENT

Well-designed architecture can support a vibrant urban environment and contribute to the creation of a cohesive, distinctive and active public realm. Success in this regard depends largely on the building's relationship to the public realm: how the building engages the street; the design of vertical elements related to a building's massing and style; the building's height and proportions relative to the width of the street, surrounding buildings, and people on the sidewalk; and, the rhythm that a building's features create along a street. Success also depends on a building's use of high-quality and compatible materials both in terms of architectural expression and how the materials complement the character of other buildings and the public realm.

The design of buildings should be considered in the context in which they are located. Some CRDS and CRAs have an established architectural style, while others are characterized by an eclectic mix of traditional and contemporary design styles. Where an urban character has been established, new buildings should strive to complement the existing urban form, relate compatibly to the form and heights of adjacent buildings, and interface seamlessly with the public realm through ground floors that activate the surrounding streets and public spaces. The effects of heights, lighting, and service and loading areas on neighboring properties also should be considered and mitigated, particularly when buildings are located adjacent to residences or other sensitive land uses.

This chapter addresses the physical elements of buildings, including their placement along a street, their form, ground floor design, façade modulation and articulation, materials, and the ways in which utilities, service access, and loading facilities are accommodated as part of building design. General building design guidance, including maximum building heights, is contained in the Comprehensive Plans for each CRD and CRA. The Volume II: District Design Guidelines for the individual CRDs and CRAs provide specific information about the context of these areas, including special considerations regarding form and style, if applicable.

INSPIRATION



Image Credit: PlannerDan

Vancouver, Canada



Image Credit: Architect Hord Coplan Macht

Seven Corners, VA

Building form, building placement on the site, and ground floor design are key design features that contribute to an area's sense of place, while supporting a high-quality pedestrian environment



Image Credit: Architect Hord Coplan Macht

Fairfax, VA



Image Credit: Fairfax County

Savannah, GA

4A

BUILDING PLACEMENT

BOTTOM

Buildings sited at the build-to line; entrances front onto the street to create a comfortable, welcoming and pedestrian-oriented street with a sense of enclosure
Image Credit: Avalon Bay



Somerville, MA

The success of a mixed-use environment relies heavily on the quality of the experience that it creates. Well planned and designed places provide opportunities for positive human interactions. Buildings are instrumental in furthering this goal because they define the boundaries of public spaces; contain the uses that bring vitality to the area; and, determine how those uses interface with the street and public realm.

Critical spatial relationships that influence peoples' experiences of a space include the relationship among the height of the buildings, the width of the streets, and the distance between buildings and the street.

DESIGN PRINCIPLES

Locate buildings close to and fronting on the street. The placement of buildings on the site can either promote or discourage walking. When buildings are located directly fronting the street and near pedestrian facilities, they create a lively, inviting and pedestrian-scaled environment where people can feel comfortable walking between local destinations. On the contrary, when buildings are set back from the streets, with parking located between the building and the street, building placement can discourage walking by contributing to an auto-oriented environment that favors vehicular movement and access over a safe and comfortable pedestrian environment. (See *Graphic 8: Building Placement*).

Establish build-to lines to foster a consistent street wall and comfortable pedestrian environment. Urban design and planning goals in most of the Comprehensive Plans for the CRDs and CRAs call for the establishment of build-to lines that locate buildings close to the sidewalk and the street to form a "street wall". The build-to line is a theoretical line adjacent to the streetscape indicating where the façades of buildings should be located. The build-to line ensures that the ground floors of all buildings on a block are generally aligned with one another. Exceptions to the build-to line may occur where building entrances, plazas, pocket parks, or spaces for public art are located. The build-to line generally applies to the podium (or base) of the building structure and excludes building towers, which may be set back further to allow for light and air to reach the ground. When upper floors are set back from the street, pedestrians generally perceive only the first few floors of the building podium, and not the full height of the building, thus creating a more comfortable experience. Street trees can also provide a similar level of comfort and enclosure when located adjacent to the street or, in locations where buildings are not present, along the inside of the sidewalk.

Building placement and the build-to lines specific to individual CRDs or CRAs are illustrated in the streetscape sections shown in the Volume II: District Design Guidelines for each district.

DESIGN STRATEGIES

1 BUILD-TO LINES

- A. The ground floor of buildings should be located along build-to lines, consistent with the guidance contained in the Comprehensive Plan and the Volume II: District Design Guidelines, and should be located such that they frame the street in order to support walkability, street level activity, civic gatherings and retail vibrancy. This build-to line should establish the relationship between the building and the street.
- B. The build-to line is generally located at the back of the Building Zone and does not intrude into the streetscape area.
- C. Plazas, pocket parks, open spaces and landscape features are allowed to interrupt the build-to line to create special moments and focal points.
- D. As a general guideline, at least 75% of a building's frontage should be located at the build-to line.
- E. The placement of a building in relationship to the street should be consistent with that of adjacent existing buildings in order to establish a cohesive appearance along the street. When existing buildings are set back further from the street, new buildings may establish a precedent for a new build-to line closer to the street.
- F. Additions to existing buildings should be designed so that they increase the presence of the building on the street by either adhering to, or coming closer to, the desired build-to line.



TOP

Ground floor portion building is aligned with the streetscape at the build-to line, while upper floors are set back to create an appropriately scaled structure in relation to the street

Image Credit: Carl Sundstrom, pedbikeimages.com

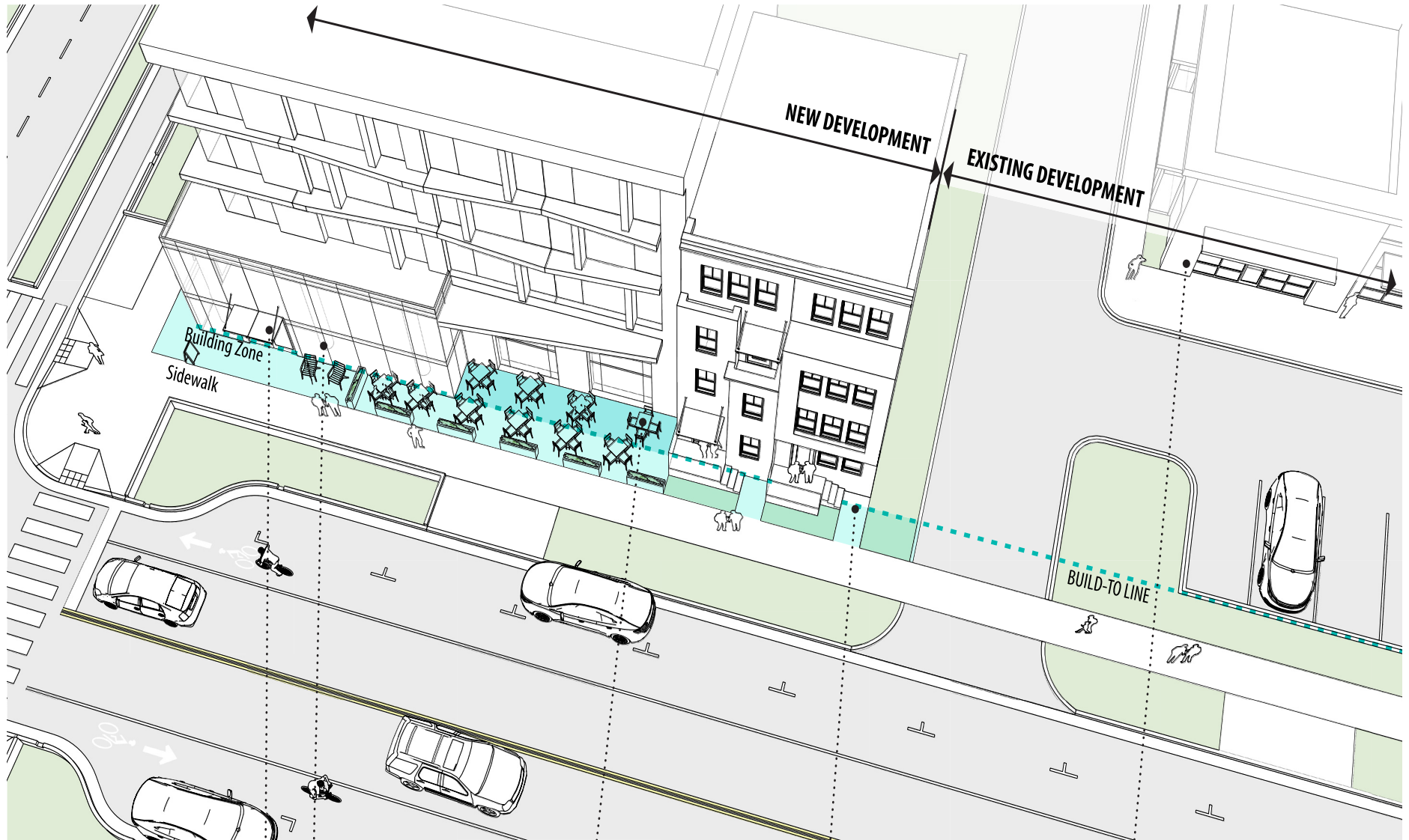


BOTTOM

Building orientation that faces the street frontage reinforces an urban form along a busy pedestrian-oriented street

Image Credit: Fairfax County

GRAPHIC 8: BUILDING PLACEMENT



BUILDING PROJECTIONS

Canopies, or other building overhangs, can project into the Building Zone

FENESTRATION

At least 60% of the commercial ground floor facade should be transparent

AMENITY SPACE

Buildings can be set back to accommodate additional amenities or building entrances

BUILD-TO LINE

At least 75% of the commercial building frontage should be located at the build-to line

EXISTING DEVELOPMENT

Existing buildings are often set back from the street; new buildings should adhere to build-to lines as described in the Volume II: District Design Guidelines

4B BUILDING FORM

Building form refers to the height and general shape of a building. It plays an important role in creating a high-quality built environment. A building's form can be used to create focal points at gateways and town centers; it can frame views and define public spaces; and, it can enhance the walkability of an area by the way that it interacts with the pedestrian realm to create visual interest and offer protection from the elements.

BOTTOM

The form of this residential building is stepped down to transition to lower height adjacent uses

Image Credit: Shalom Baranes Architects



Alexandria, VA

DESIGN PRINCIPLES

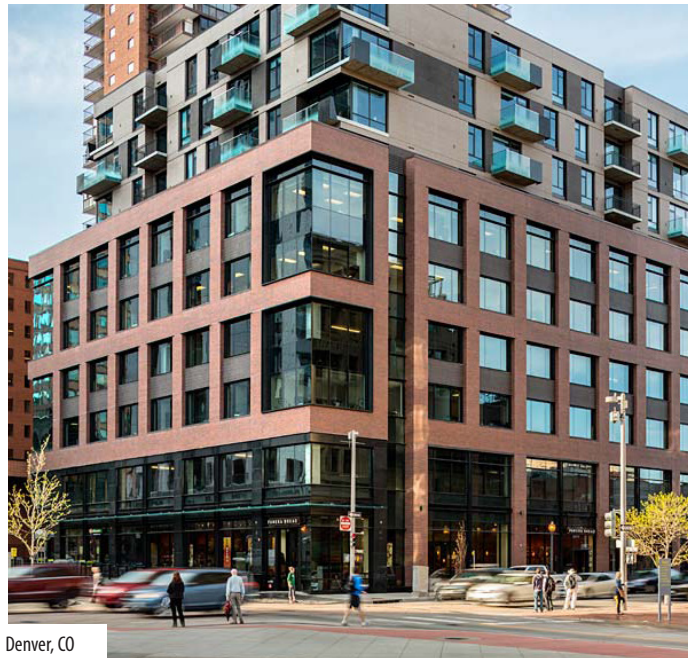
Design contextually, with a compatible but unique architectural language. A successful building form should reflect the building's context by relating positively to other buildings, including identified or potential historic buildings and environmental or topographical features in the area. Where there is an opportunity, design cues from surrounding buildings should be incorporated into new developments. This does not mean mimicking the neighboring buildings, but rather developing an architectural language that utilizes elements from the existing context such as adjacent building heights, architectural rhythm, materials, and/or scale to create a design that is compatible but unique.

Ensure that building heights conform with the Comprehensive Plan and transition compatibly to adjacent uses. In the Comprehensive Plan for the CRDs and CRAs, maximum building heights are a factor that is used to achieve an overall urban form and to focus intensity in certain locations, while also limiting impacts on adjacent properties. Maximum building heights are articulated in the Comprehensive Plan using linear feet or the number of allowable stories in areas where flexibility is needed to achieve a specific urban form and density. The tallest buildings are frequently planned closest to the center of the CRD or CRA, located in town centers and/or near transit facilities. Variations in building heights can be used to create a signature building at a key intersection or gateway. Tapering down of building heights is often used to address impacts to neighboring single-family or low-density residential areas.

DESIGN PRINCIPLES (CONTINUED)

Employ creative building massing to foster variations in urban form and minimize impacts on adjacent properties.

Maximizing the height permitted for every building may result in an undesirable uniform and static urban form. A creatively massed development incorporates techniques such as building step-backs and variation in building height; it distinguishes a structure's bottom, middle, and roof line, while emphasizing features on the ground floor. In some instances where a large building footprint could dominate an entire block, such as a parking garage or large-format retailer, it may be necessary to incorporate design strategies that minimize the impact of these uses on the public realm. Creative massing and orientation can also reduce impacts such as shadowing while maximizing access to sunlight.



RIGHT

Building form and use is delineated through variations of materials, building step-backs and building heights

Image Credit: Gensler

Denver, CO

DESIGN STRATEGIES

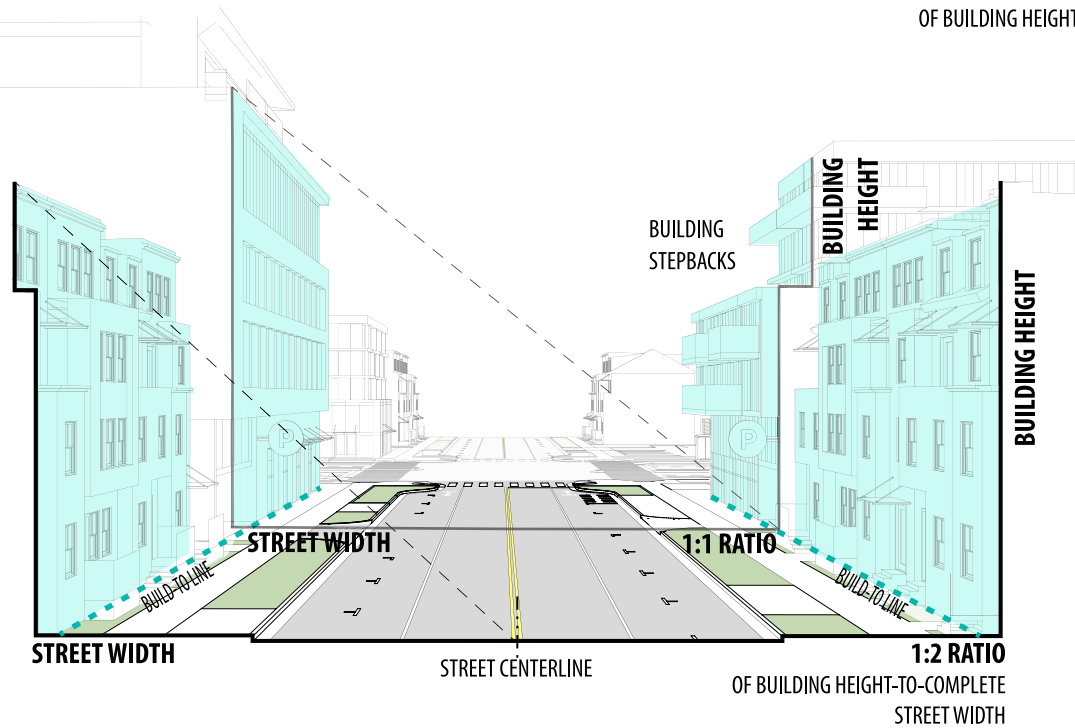
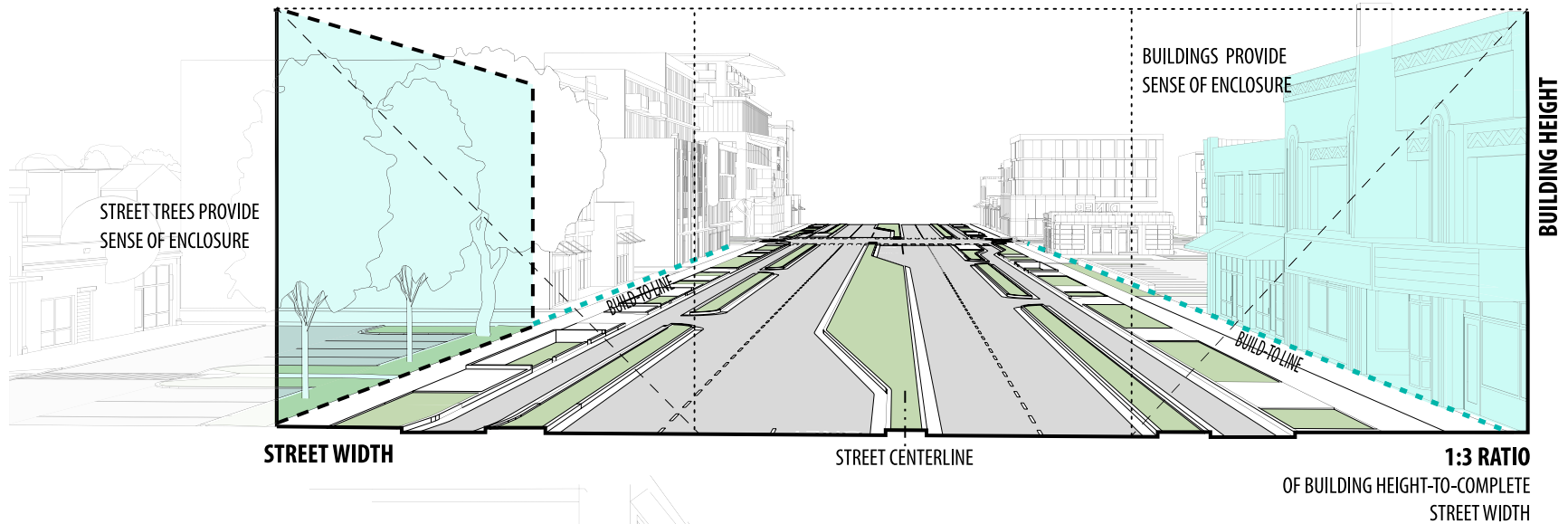
1 BUILDING HEIGHT-TO-STREET WIDTHS RATIOS

- A. Building height-to-street width ratios of between 1:3 and 1:2 should be provided to create an appropriate sense of enclosure for the street, while the height-to-width ratio should not exceed 1:4. (*See Graphic 9: Building Height to Street Width Relationship*).
 - i. On Local Streets, a 1:1 ratio may be appropriate.
 - ii. Street width is calculated from the build-to line on one side of the street to the build-to line on the opposite side of the street.
- B. Step-backs in building height and massing on upper floors can be used to create an appropriate proportion of street width to building height, while creating a sense of enclosure where buildings meet streetscapes.
- C. Closely spaced street trees may be used to provide a similar sense of definition and enclosure while softening the edges of buildings. Trees can also define and enclose the inside edge of a sidewalk in locations where building frontage does not exist adjacent to the sidewalk.

2 BUILDING ORIENTATION AND MASSING

- A. Building heights within a single development should be varied to contribute to an interesting skyline while adhering to the maximum heights described in each area's Comprehensive Plan.
- B. Above the ground floor, building step-backs or breaks in the building form are encouraged to create effective transitions in heights, highlight open spaces, frame views, and/or to reduce the impact of building height and shadows on the street and open space. Step-backs can vary in depth and location, depending on the size and proportion of the building, but

GRAPHIC 9: BUILDING HEIGHT TO STREET WIDTH RELATIONSHIP



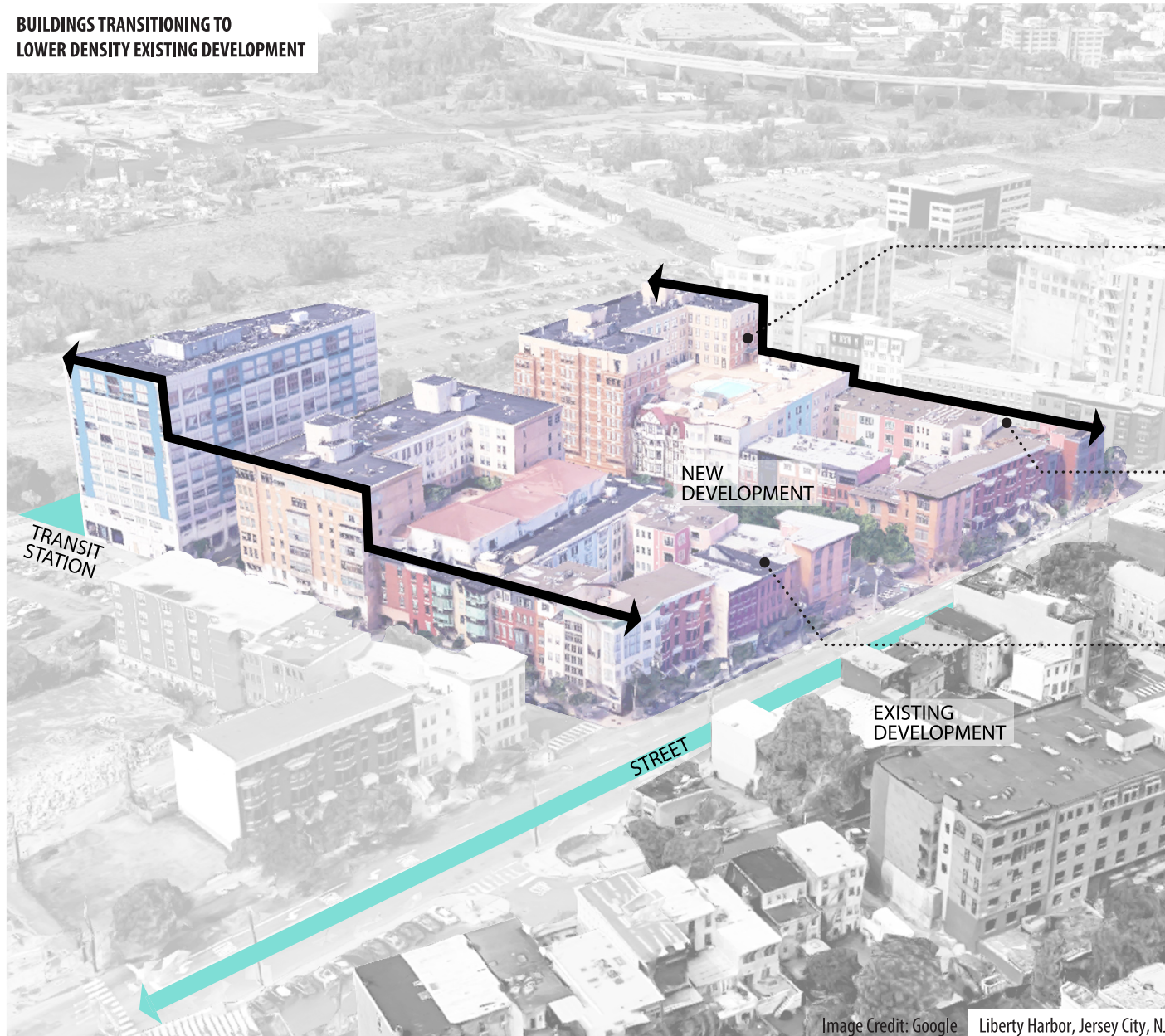
DESIGN STRATEGIES (CONTINUED)

generally they should be a minimum of 10-feet in depth. Uses are encouraged to be placed in the outdoor spaces created by the step-backs to maximize the use of the site and to create a pleasant appearance when viewing these spaces from upper-floors. (See *Graphic 10: Transitions in Building Form*).

- C. The difference between a building's base (also known as the podium) and remainder of the building (the tower) should be emphasized to foster a design that is human-scaled at the ground plane. This can be achieved through changes in material, use of cornice lines, and/or changes in fenestration, where appropriate to the architecture. Effective techniques for each portion of the building include:
 - i. Building base – The base and cornice line should relate to adjacent existing buildings in terms of height and should use compatible architectural details, step-backs and/or materials. A distinctive ground floor design should utilize durable materials, prominent building entries, window fenestration, and design details that lend pedestrian scale and visual interest to the building, see *Section 4C ("Ground Floor")* for additional information.
 - ii. Middle floors – Distinctive window fenestration and articulation should create a rhythm and pattern that complements adjacent buildings as well as the building's base and roof line.
 - iii. Top floor and roof line – A varied roof line should be provided to add visual interest from observable angles and reduce the perceived mass of large scale buildings.
- D. Building orientation should minimize the casting of shadows onto adjacent properties and open spaces.
 - i. Step-backs in building height and massing on upper floors can be used to reduce the impacts of shadows and increase access to sunlight, a particularly important consideration as it relates to public open spaces.
 - ii. A shadow study may be necessary to ensure that adjacent buildings, open spaces and sidewalks will have access to adequate light and air.
- E. Large structures such as parking garages and big-box retailers should be integrated into the core of a building mass, wherever feasible. This can be achieved using design strategies such as locating the use on upper floors, lining the use with smaller uses, incorporating publicly-accessible mid-block crossings through the building, and/or providing architectural treatments that reduce the scale of these large uses.
- F. The design of corner buildings should incorporate building form variations that highlight the building's prominent and visible location, such as additional building height relative to surrounding buildings, distinctive rooftop and façade elements, and shifts in building geometry.
- G. Signature buildings with notable architectural features that stand apart from those of surrounding buildings should be sited in prominent and visible locations, such as at gateways, key intersections, on corner sites, at higher elevations, or at other locations that are highly visible from surrounding areas.
 - i. Signature buildings should create a sense of arrival and serve as a visible landmark for the CRD or CRA.
 - ii. Signature buildings should be distinguished by their distinctive form—for example, by incorporating additional height relative to surrounding buildings or by having variations in height and building form.

GRAPHIC 10: TRANSITIONS BETWEEN BUILDING FORMS

BUILDINGS TRANSITIONING TO LOWER DENSITY EXISTING DEVELOPMENT



BUILDING STEPPBACKS

Upper floors of building are stepped back to reduce building height along street edge

BUILDING HEIGHT TRANSITIONS

New development steps down to smaller-scale buildings across from existing development

CONTEXTUAL BUILDING FORM

Building forms and heights match those on the opposite side of the street

Image Credit: Google Liberty Harbor, Jersey City, NJ

4C GROUND FLOOR DESIGN

BOTTOM

Retail storefront with well-designed glazing and seating in a narrow Building Zone activates the street

Image Credit: Fairfax County



Savannah, GA

In a high-quality urban area, the ground floors of buildings work symbiotically with the surrounding streetscape and public spaces to provide an experience that is active, safe, comfortable, and engaging for pedestrians.

The “Ground Floor” is defined as the first level of a structure that is at a similar elevation as the streetscape. The phrase “Activated Ground Floor” refers to the combination of use and design of a ground floor that creates a positive experience for pedestrians or helps to generate pedestrian activity. Having uses such as retail, restaurants, lobbies, entrances to individual residential units, building amenities, public spaces, and certain office uses on the ground floor is the desired way for the ground floors of buildings to relate to the street. Those and other interim or permanent creative uses that help enliven ground floors are strongly encouraged.

DESIGN PRINCIPLES

Incorporate a range of façade and building form treatments to foster a varied and dynamic pedestrian experience. The building’s use, whether it be residential or non-residential, dictates many of the design decisions related to the ground floor. For all ground floors, however, the careful articulation of the façade is crucial to establishing a dynamic public realm. Treatments such as changes in materials, building form and step-backs, special corner designs, and façade elements such as transparency, modulation, building entries, and cornice lines provide a varied pedestrian experience. Building entrances for ground floor uses, such as retail spaces and building lobbies, should be oriented to the street or to activity nodes, and not away from the street or internally within the site.

Design non-residential ground floors to be both visually interesting and pedestrian-scaled. The design of all non-residential ground floors should be visually interesting, primarily transparent, and well- but not overly-lit. Since the ground floor space typically has a height of 16 to 20 feet, reducing the impact of that height to a pedestrian scale through the use of windows, architectural details and other visual accents should be considered.

Design residential ground floors for both privacy and “eyes on the street.” Elevating the ground floor of residential uses helps to separate the public and private realms. The windows of residential units should be located mostly above the eye level of the pedestrian for privacy purposes. The adjacent Building Zone creates the opportunity for semi-private outdoor spaces that can be personalized and can incorporate elements such as stoops and porches, landscaping, low walls, and overhangs. Ground floor residential uses should have less glazing, which will reduce the likelihood of residential ground floor windows being kept shuttered and will encourage eyes on the street for safety. (*Graphic 11: Ground Floor Strategies for Residential and Non-Residential*) illustrates how to incorporate these principles into the design of new developments.

DESIGN STRATEGIES

1 NON-RESIDENTIAL GROUND FLOORS

- A. The floor-to-ceiling height of ground floor uses in non-residential buildings should be tall enough to be flexible to accommodate a variety of uses, including retail. Heights should range from 16 to 20 feet.
- B. Non-residential entrances should primarily be oriented towards primary streets designed for pedestrian activity and should be accessed directly from the adjacent public sidewalk or Building Zone.
 - i. As a general guide, doors should be provided approximately every 60-feet.
 - ii. Except when there is significant existing topographic variations, storefronts should be at the same grade as the sidewalk and Building Zone.
- C. When retail or other commercial uses are not supported by the current market, consider alternative uses or designs that create an “Activated Ground Floor” such as highly transparent lobbies and amenity spaces, live-work units, and residences with individual entrances and well-defined Building Zones. Consideration should be given to designing these spaces in a manner that allows for the future conversion to retail use.
- D. Door and window openings should be spaced to create a rhythm along street frontages and create building transparency.
 - i. In general, glazing and other transparent materials should be used for at least 60 percent of the total ground floor façade to allow for visibility into the building, which in turn creates vitality and interest along the street.
 - ii. Clear glass windows located 2 to 10 feet above-grade are suggested to ensure good visibility into the building interior.
- iii. Windows should not be obstructed by window signs, permanent displays or blinds so that pedestrians can see into the building and building occupants can look out.
- iv. False windows, highly reflective glass, opaque glass, and permanent vinyl window clings that obstruct views through windows are discouraged.
- v. Storefronts should be well lit but not so overly bright as to detract from the pedestrian experience.
- E. Awnings and canopies should be incorporated into ground floor façades to provide variety and identification for businesses; these features have the advantage of being easy to change over time. Permanent canopies may also be integrated into the building design.
 - i. Awnings and canopies should relate to the scale of the building and should not overwhelm the façade.
 - ii. Awnings and canopies should be made of a high-quality, easily maintained materials, such as canvas or painted aluminum.



Washington, DC

LEFT

Ground floor engages with the street by being at the outer edge of the Building Zone
Image Credit: Jon Banister, Bisnow

GRAPHIC 11: GROUND FLOOR STRATEGIES FOR RESIDENTIAL AND NON-RESIDENTIAL

RESIDENTIAL



Renton, WA

Image Credit: Seattle.gov

- 1 Landscaped buffer between sidewalk and building
- 2 Grade separation of residences from street provides privacy
- 3 Stoops and overhangs highlight entrances and add rhythm to the streetscape

RETAIL

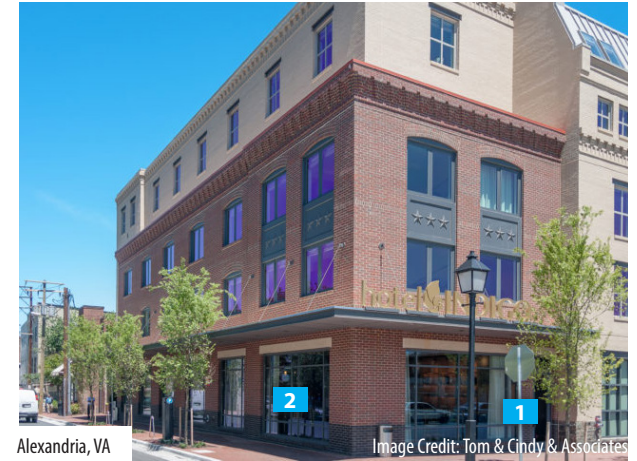


London, UK

Image Credit: London Lifestyle Apartments

- 1 Storefronts distinguished from other uses above by façade treatment
- 2 Storefronts with large, pedestrian-oriented windows provide transparency and activate the street

HOTEL/OFFICE



Alexandria, VA

Image Credit: Tom & Cindy & Associates

- 1 Signage and ground floor windows highlight hotel entrance, lobby and curbside drop-off area
- 2 Large windows at ground floor engages the street and adds façade transparency



Fairfax, VA

Image Credit: SK&I Architecture

- 1 Ground floor windows and entrances add transparency and activate the street
- 2 Prominent entrance and lobby highlighted by façade treatment and clearly delineated from rest of building
- 3 Entrance design accentuates the importance and visibility of the street corner



Healdsburg, CA

Image Credit: CSW / ST2

- 1 Large windows, glazing and open storefront provide transparency and activate the streetscape
- 2 Pedestrian-scaled signage



Seattle, WA

Image Credit: Pennon Construction

- 1 Façade treatment, overhang, and lighting highlight and distinguish the entrance
- 2 Street furnishings and plantings enhance the character of the streetscape

DESIGN STRATEGIES (CONTINUED)

- iii. Awnings and canopies should be installed so that the valance is a minimum of 8-feet above the ground in the Building Zone or sidewalk and should not overhang into the Landscape Panel. Placement should avoid conflicts with mature street trees.

2 RESIDENTIAL GROUND FLOORS

- A. Residential lobby entrances for multi-family buildings should be highlighted through overhangs, special paving, building-mounted signage, landscaping, and/or lighting. The façades of lobbies should be predominately transparent.
- B. Individual residential entrances should be used to create breaks in the building façade and increase pedestrian interest along the street. Frequent entryways into individual units along a building's ground floor activate the street frontage by increasing access points where residents come-and-go, and provide opportunities for socializing.
- C. Ground floor residential uses and private, individual entrances are encouraged to be grade-separated from the public sidewalk to highlight the individual units, provide privacy for residences, and reinforce the separation between the public and private realms.
 - i. To provide visual privacy, the ideal vertical grade difference between the sidewalk and the main level of the residence is approximately 3-feet. This creates the opportunity for stoops, bays, porches, or entries that establish a distinct transition between the public realm and private units.
 - ii. When grade separation cannot be achieved, a hardscaped or landscaped space should be provided between residential use and the public sidewalk.
- D. Stairs, porches, or ramps should not impinge upon the sidewalk and should be located entirely within the Building Zone so as to not limit pedestrian movement.

3 CORNER BUILDINGS

- A. The ground floors of corner buildings should be designed to anchor and activate street corners.
 - i. Building entrances should face and open directly onto the corner.
 - ii. The ground floors of buildings should be predominately transparent to strengthen the relationship between the building and adjacent streets.
 - iii. Building design should incorporate large windows, canopies, and building signage.
- B. Activated ground floors are encouraged to wrap around prominent building corners for added visibility, activate the streetscape on all sides of the building, and provide a visual transition between cross streets.
- C. Ground floor retail and restaurant uses are encouraged at street corners, as are outdoor seating areas to support these businesses.



Lincoln Park, IL

LEFT

Corner is highlighted through a distinctive architectural feature; building entrances are located near the corner activate the ground floor
Image Credit: Payton Chung (Flickr)

4D BUILDING MODULATION AND ARTICULATION

Buildings gain their character and distinguish themselves through modulation and articulation. Modulation generally refers to changes in a building's horizontal and vertical planes. Articulation refers to the organization of the building details and materials. Modulation and articulation work together to transform a rectangular mass into a composition that creates complexity and variety, both of which are essential to developing an interesting streetscape for pedestrians and to defining an area's skyline.



Hyattsville, MD

LEFT
Individual residences are distinguished by façade articulation and changes in materials and colors
Image Credit: Fairfax County

RIGHT
Material changes and a cornice line above the first floor distinguish the ground floor from the remainder of the building mass
Image Credit: Fairfax County

DESIGN PRINCIPLES

Utilize modulation and articulation to break up building mass, define architectural character, and animate the streetscape. Horizontal and vertical planes should be used on each building façade to break up the mass of a large structure and to create visual interest. The appropriate scale for this articulation is a function of the size of the building and the adjacent public spaces including sidewalks, landscape zones, and roadways. Similarly, the materials used in façades should contribute to the character of an area, especially for the building's base. Finishes, along with architectural details, can bring a human scale to buildings and add interest to a streetscape when considered in conjunction with the adjacent public realm.

Treat building façades to create a unique building character. In the CRDs and CRAs, building character should be expressed through the proportion, style, and rhythm of building elements. The treatment of façades should reflect the overall architectural style of the project, while also retaining individuality. Details such as transparency, light, color, texture, and the inclusion of art should be used cohesively to create a unique character. (See *Graphic 12: Building Façade Modulation*).



Savannah, GA

DESIGN STRATEGIES

1 FAÇADE MODULATION AND ARTICULATION

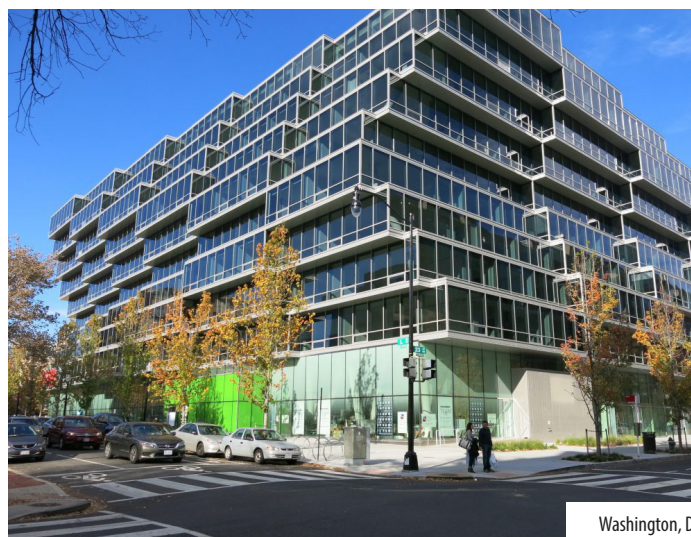
- A. Façades should include a rich composition of design elements that provide visual interest from different vantage points. A variety of horizontal and vertical planes should be organized to break up a building's mass, create visual interest, and align the scale of the architecture to the pedestrian.
- B. Façades should be modulated to express changes in uses or property owners/tenants.
 - i. Changes in vertical massing, architectural projections, and recesses may be used to achieve this modulation.
 - ii. Modulation should be clearly delineated and balanced with the design of the building.
 - iii. For residential uses on the ground floor, exterior modulation should correspond to individual units, where possible.
- C. The visual appearance of long building elevations should be enhanced by incorporating variations in the wall plane, and the use of bays and fenestration, as well as through the addition of public art, and/or landscaping. Large blank façades are discouraged, except potentially along service streets or other locations where they cannot be viewed from the public realm.
- D. Building materials that help relate to the human scale are encouraged to be incorporated in the design of façades. Consideration should be given to breaking façades up into sections through the use of different materials or architectural treatments. A rhythm on the façade should be developed by applying similar decorative elements at regular intervals.



Washington, DC

TOP

Large format retailer integrated into the core of a building mass
Image Credit: MMA Architects



Washington, DC

BOTTOM

Cantilevered glass façade with some sections that step out and back preserve neighbors' views and minimize the structure's bulk along the streetscape
Image Credit: amrank.info

TOP

Three dimensional elements and building groupings create interest
Image Credit: Franck & Lohsen Architects



McLean, VA

BOTTOM

Modulated façade establishes vertical proportions that divide the mass of the building into bays; horizontal balconies that reduce the scale of the building's proportions create a well-articulated elevation
Image Credit: Vassilena Sharlandjieva via www.ubyssey.ca



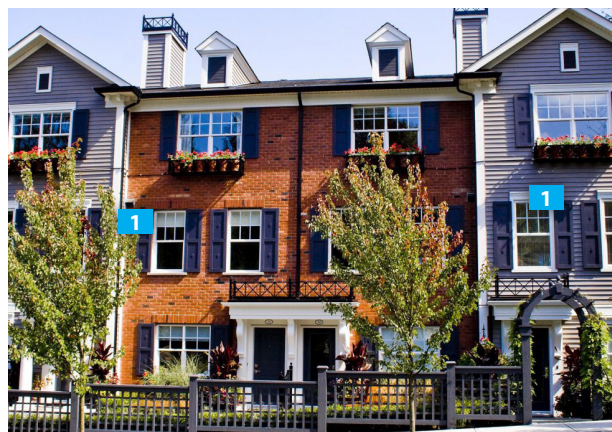
Vancouver, Canada

DESIGN STRATEGIES (CONTINUED)

- E. Three-dimensional architectural elements such as cornices, moldings and window heads should be incorporated on building façades where architecturally appropriate to create shadows on the façade and provide both variety and scale.
- F. All façades of a structure that are visible from the public realm should receive equal attention in order to attain a quality building design.
- G. Window groupings are encouraged to be used to create interest. This can be particularly effective when highlighting building entrances. Windows should be chosen based on the proportions and architectural style of the building. For example, windows more vertically proportioned (meaning they are taller than wider) are appropriate for a building that is more of a traditional architectural style, while buildings of a modern architectural design may have horizontal bands of windows across a façade.
- H. Arcades, or porches should be incorporated to foster a human-scaled environment at ground level and to create external walkways that provide protection from the elements, particularly in locations where it is anticipated that pedestrians will linger.
- I. Corner buildings and signature buildings should incorporate distinctive façade treatments that reflect and accentuate their prominence and visibility while creating a visual landmark for the CRD or CRA. Potential design strategies include chamfered corners; towers and parapets; awnings; verandas; building circulation features; extra façade glazing; and, use of distinctive materials and lighting to differentiate the building façade.
- J. Building design should minimize large, uninterrupted surfaces of transparent or reflective glass by creating “visual noise” or noticeable surface areas that birds will not try to fly into or through.

GRAPHIC 12: BUILDING FAÇADE MODULATION

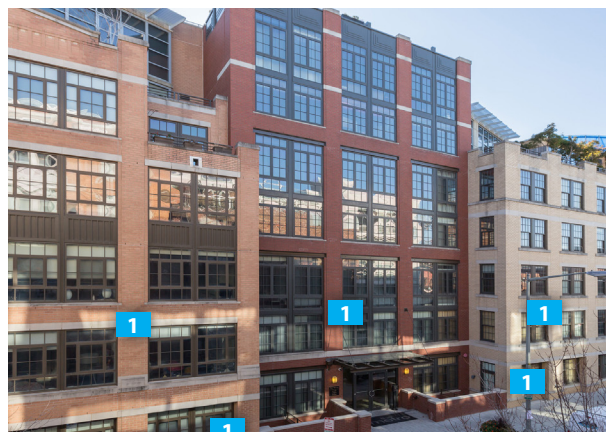
MODULATION AND ARTICULATION OF FAÇADES



Port Moody, BC

Image Credit: Mosaic Homes

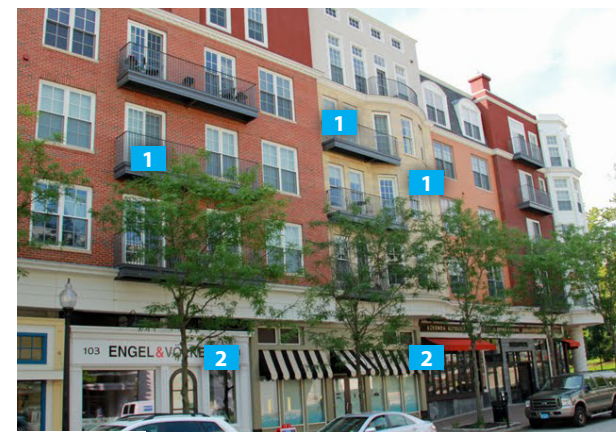
- 1** Variations in façades and materials highlight individual residences and add architectural variety



Washington, DC

Image Credit: Stout & Teague

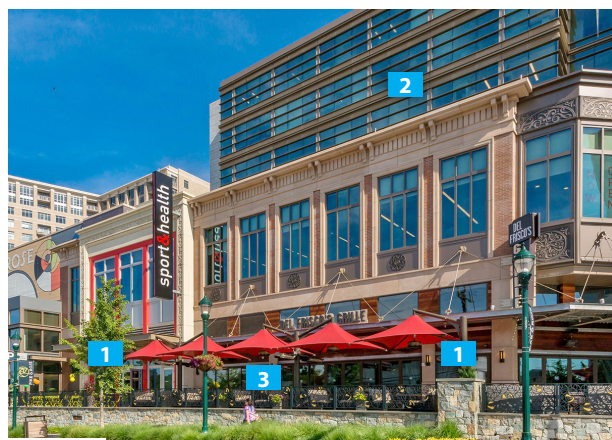
- 1** Variations in wall plane and materials break up the building mass, while creating visual interest and rhythm along the streetscape



West Hartford, CT

Image Credit: Hartford Daily Photo.blogspot

- 1** Variations in façade color and texture (balconies, bay windows) break up the mass of larger buildings
- 2** Retail uses at ground floor distinguished from upper-floor residences by distinctive ground floor design



Rockville, MD

Image Credit: Ruppert Landscape

- 1** Different materials and architectural treatments to create vibrant storefronts and differentiate uses
- 2** Upper floors stepped back to reduce building scale
- 3** Outdoor restaurant seating activates the street



Huntersville, NC

Image Credit: Patrick Schneider

- 1** Porches and balconies create vertical interest and add texture to the building frontage



Arlington, VA

Image Credit: Cooper Carry

- 1** Curved face of building and vertical façade variations add rhythm and break up the mass of the building
- 2** Horizontal elements distinguish office building lobby and entrance from upper-floor office uses
- 3** Reflective façade adds individuality and visual interest

4E

BUILDING SIGNAGE

Building signs are important to CRDs and CRAs because they provide necessary information to passersby and can contribute to the identity and character of the area. Attractive, creative, and appropriately-scaled building signage enhances the appeal of an area. Signage that is conceived in a comprehensive manner, where all types of site signage are designed as part of a family, will prevent sign clutter and provide a cohesive appearance. Signs should be constructed of durable, high-quality materials that withstand long-term exposure to the elements.

In these Guidelines, building signage refers to a number of types of signs including ground-mounted project identity or monument signs; building-mounted project identity and business signs; pedestrian-scaled blade and awning signs; and, window signs, among others. Refer to section 6A (*“Signage and Wayfinding in the Public Realm”*) for additional guidance on signs. The Zoning Ordinance provides regulations regarding the permitted types, size, and appropriate locations of signs. Most CRDs and CRAs are also located within a Sign Control Overlay Zoning District, which places additional restrictions on the amount and type of allowable signage. Comprehensive Sign Plans (CSP) may be submitted for developments zoned to the Planned Districts to allow for more flexible and creative project-specific signage.



RIGHT
Coordinated multi-tenant retail storefronts within a mixed-use building using a range of building-mounted signs
Image Credit: Fairfax County

Arlington, VA

DESIGN PRINCIPLES

Design building signage to animate the public realm.

Building signage can be an important component of a lively and animated public realm by adding color, lighting, and style that creates visual interest. At night, the manner in which signs are illuminated can help a building come alive and can play a role in defining the character of the public realm. However, visual clutter and glare due to excessive or overly lit signage is discouraged.

Consider signage in a comprehensive and cohesive manner, balancing compatibility within the overall context with the provision of a distinctive design.

Developments should ensure that the signage reflects the character of each CRD or CRA, while being distinctive as it relates to the specific development. All signage within a development should be considered in a comprehensive and cohesive manner; variations reflecting of the nature of the individual businesses are encouraged to foster a sense of place. Individual signs should share similar design characteristics, including scale, alignment, and/or placement with other signage in the same development, particularly when it comes to building-mounted signs. Building-mounted signage should fit with the architectural style and scale of the building. Signage should use materials and colors that are complementary to the building's finishes, and should be incorporated into the architectural elements of the structure.

Design signage so that it functions on multiple scales while minimizing the use of free-standing signs.

Signage should consist of both auto-oriented and pedestrian-scaled signs. The use of free standing signs should be minimized, and any such signs should be considered part of the street furniture and be integrated into those other design elements.

DESIGN STRATEGIES

1 BUILDING SIGNAGE DESIGN AND PLACEMENT

- A. All signage should be well-organized, neat, well-maintained, durable, concise, and legible.
- B. Signs should be sized so that they are visible to the intended audience, but should not be excessively large.
- C. The typeface, characters and graphics of storefront signage should be scaled to pedestrians. Appropriate types of pedestrian signage may include blade signs, awning signage, and sign bands.
- D. Pedestrian blade signs projecting from buildings should be mounted a minimum of 8-feet above the sidewalk grade. Blade signs should project no more than 4-feet from the building façade.
- E. Building identity signs should be sized and placed so that they are legible by both pedestrians and moving vehicles and are appropriate to the scale of the building.
- F. The use of monument signs should be limited, especially where the building can accommodate signage. Pole-mounted signs should not be used.
- G. Building-mounted signs should be placed in architecturally defined areas on the façade where they are framed or delineated.
- H. Window signage should not unreasonably obstruct views from the street to the interior. Permanent or temporary window signs may be considered for a portion of the glazed area of the storefront as long as transparency is maintained for at least 50% of the window. Window decals may also be used to reduce bird collisions so long as designs do not obstruct views.
- I. Building-mounted cabinet signs and display windows may be considered in areas where functional storefronts are not possible or where blank walls exist along pedestrian areas.
- J. Sign lighting can include: back-lighted letters/halo lettering, front-lighted channel letters, internally-lighted canopy signage, gooseneck spot lights, and other varieties of exterior illumination.



Falls Church, VA

TOP

Building-mounted project identity sign integrated into the façade creates unique design feature and reduces clutter

Image Credit: Fairfax County



Fairfax, VA

BOTTOM

Multi-tenant signage (building-mounted, canopy, and blade signs) as part of a Comprehensive Sign Plan
Image Credit: Edens

4F

BUILDING LIGHTING

The design of light fixtures on private property in the Building Zone and in the locations within the public realm should complement the street lighting, the other site furnishings and the architecture of the adjacent buildings. Lighting should promote a safe environment while enhancing the character and appeal of the public realm.

Article 14 of the Zoning Ordinance contains the County's Lighting Standards for illumination levels for private property. The [International Dark Sky Association](#) provides guidance on selecting appropriate, full cut-off fixtures.

The following qualitative design strategies should be used to guide choices for appropriate lighting within the Building Zone. Additional design strategies for street lighting are detailed in *Section 2.F.3 ("Street Lighting")*, while the illumination of building signage is addressed in *Section 4E ("Building Signage")* above.

DESIGN PRINCIPLES

Incorporate lighting from a variety of sources to highlight architectural details and other site features. A good lighting plan includes light from a variety of sources including fixtures that are building-mounted, located within storefront windows, integrated into canopies and signage, and those that emanate from overhead sources such as string lights, and from the ground including landscape lighting, bollards and steps. Accent lighting is encouraged to highlight architectural details and site features such as specimen planting, public art, and/or signage.

Minimize glare. Illumination should be contained within the site and only full cut-off fixtures should be utilized. Full cut-off fixtures provide light only from the bottom of the fixture and ensure that no light emits upward (above 90 degrees). Shields may be used to control and direct light where desired. Small, intense light sources create glare and should be avoided.

LEFT

Illuminated storefront windows and streetscape lighting help create an appropriately scaled pedestrian environment

Image Credit: Jacqueline Renfrow



Dallas, TX

RIGHT

Building lighting from a number of sources including building-mounted, internal illumination, and bollards

Image Credit: Corey Templeton



Portland, ME

DESIGN STRATEGIES

1 LIGHTING FIXTURES AND TECHNOLOGY

- A. All fixtures should use LED bulbs or more advanced energy-saving technologies, if available.
- B. Full-cut off fixtures are required by the Zoning Ordinance to reduce light glare from parking garages, parking lots, and buildings onto walkways, streetscapes, and streets. Building/wall mounted lighting, canopy lighting, accent lighting and other lighting on private property should use full cut-off fixtures or have a shield that controls the light so that it is focused only on the object that is being illuminated.
- C. Most lighting should use lower color temperature bulbs (3000K or below) for neutral white or warm white color light. The color rendition index (CRI) should be 70 or greater.
- F. Internal and external storefront illumination should be provided to create an inviting pedestrian environment. Visual interest can be enhanced by highlighting architectural features such as overhangs and canopies.
- G. Seasonal lighting strategies should be considered to enhance the character of place for prominent buildings such as those in shopping districts and for civic uses.

2 USES OF LIGHTING

- A. Lighting should highlight architectural building elements like columns, glass or towers to promote a dramatic and exciting urban environment at night.
- B. Lighting should be incorporated into hardscape elements such as steps, railings and pavement to illuminate spaces in the Building Zone.
- C. For safety, lighting should not result in shaded or low-visibility areas that may encourage loitering and crime, particularly at the edges of a site.
- D. Paths, entries and exits should be lit to facilitate wayfinding. However, lighting should not be so intense that it is unpleasant, causing people to avoid the area.
- E. Gateways and prominent corners should be emphasized through special lighting designs. Lighting should particularly highlight gateway signage and public art.



Madison, WI

BOTTOM

Gateway building highlighted at night by internal illumination
Image Credit: Midwest Living, Meredith Corporation

4G

“BACK-OF-THE-HOUSE” FACILITIES AND EQUIPMENT

The “back-of-the-house” facilities and equipment that serve buildings include utilities, maintenance equipment, telecommunications equipment and service areas for loading, trash pickup and recycling. Such facilities and equipment can be disruptive to the function and visual appearance of developments if not designed properly. They should be located in a manner that minimizes their impact on the pedestrian and visual environments, including views from adjacent residences or office buildings, while still enabling easy access by utility and service providers. Refer to *Section 2J (“Utilities”)* for additional guidance on utilities in the public right-of-way.



Fairfax, VA

RIGHT

Loading, deliveries, and parking entrances for residents and commercial uses co-located at the rear of the property in an alley
Image Credit: Fairfax County

DESIGN PRINCIPLES

Identify and address conflicts with utility and service requirements early in the design process. It is important to anticipate the locations for utility and service facilities during the conceptual design phase of a development. Understanding utility needs and locational requirements and integrating them appropriately will not only save time during the design and construction process, but will also contribute to a quality development by avoiding the placement of utilities in locations that interfere with aesthetics or conflict with the placement of trees or other site amenities.

Minimize pedestrian and visual impediments. Utility cabinets and vaults should be located within a building structure or within certain streetscape zones in a manner that avoids creating pedestrian impediments and sight distance conflicts; that provides the most attractive streetscape possible; and, that provides easy access for maintenance.

Conceal equipment and services at the rear of a site or within enclosures. All maintenance and building equipment and services areas should be located within the building, to the rear of the site, behind buildings, along a service street, or within a parking garage and shielded from public view. Dumpsters should be housed inside enclosures if not located within the building structure. Consideration should be given to consolidating service areas of multiple developments in the interior of a block through the use of cooperative arrangements among landowners.

DESIGN STRATEGIES

1 LOCATION OF EQUIPMENT AND FACILITIES

- A. The back-of-house functions necessary for the building's function should be located along service streets or interior to the site.
 - i. Locations of wet utilities (water and sewer pipes) may significantly impact the placement of buildings, the size of the Building Zone, or plantings within the Building Zone, and locations for such utilities should be anticipated in the conceptual design of the site. Trees should be planted a minimum of 5 feet from utility easements containing pipes.
 - ii. Dry utilities (electrical and communications lines) should be placed to the rear of the building, under the sidewalk, or in the Building Zone.
- B. A conceptual utility plan should be prepared to designate and organize easements and utility equipment.
- C. Developments should bury all utility lines underground.
- D. Utility lines should be co-located in common trenches to the extent feasible.
- E. Dumpsters should be located either within the building or the parking garage, or near loading and service areas.
- F. Access to building loading and trash collection should be located on the portion of the site that is least intrusive to adjacent properties, existing and planned park spaces, and other pedestrian areas. These building services should not be located on streets with commercial storefronts or where loading may impede pedestrian movement.

2 AESTHETIC AND NOISE CONSIDERATIONS

- A. If located external to structures, utility, maintenance and service facilities should be screened so they are not visible from the street, from adjacent properties, or from open spaces.
 - i. Landscaping, screens, fences, walls, or architectural features should be used to conceal ground level equipment.
 - ii. Materials compatible with and integral to the building architecture should be used to conceal roof equipment or dumpsters; concrete or brick enclosures are preferred to wood, particularly if they are visible from the street.
 - iii. Chain link enclosures are not generally recommended.
- B. Antennas and telecommunications equipment should be flush-mounted or hidden behind screen walls, parapets or other building features. Innovative treatments for incorporating equipment as architectural elements within the structure of the roof are encouraged. Consideration should be given to minimizing rooftop equipment to reduce hazards for birds.
- C. Noise-generating equipment such as air-conditioning units should be located internal to buildings, on rooftops, or away from neighboring properties. If not possible, noise barriers and other means of reducing impacts should be provided.
- D. Loading and vehicle parking entrances should be co-located wherever possible and should be integrated visually into the building to minimize a potential unsightly appearance. Loading and entrance doors should complement the architecture of the building.

4H SUSTAINABLE BUILDING AND SITE DESIGN

Redevelopment provides opportunities to improve the environment and protect existing waterways, restore local streams, and reduce pollutant loads on Fairfax County watersheds. Providing sustainable facilities that enhance the health of the environment is a priority in the CRDs and CRAs. Sustainable features can be introduced at any scale, from the use of recycled or locally sourced materials, to the increase of native biodiversity in the landscape, to the incorporation of stormwater management into a site currently lacking such facilities. Developments should incorporate:

- renewable and recycled resources;
- resource- and energy-efficient designs and materials;
- water conservation and gray water reuse;
- environmentally-friendly construction practices;
- state-of-the-art stormwater management, including Low-Impact Development (LID) techniques and other best management practices; and,
- preserve and/or restore existing, on-site resources.

LEFT

Green roofs provide many benefits including stormwater collection, transpiration, and evaporation, reducing urban heat-island effect, capturing pollutants, and adding natural beauty
Image Credit: CSGlobe



Paris, France

RIGHT

Bird-friendly and environmentally-friendly building design includes the use of laminates on glass portions of the building façade to deter bird collisions
Image Credit: Ball Construction

DESIGN PRINCIPLES

Follow countywide and area-specific guidelines for sustainable design. Green practices should be used to foster sustainable design within many areas of the project, as set forth in the following County guidance:

- [Objective 13 of Environmental Element of the Policy Plan](#) component of the Comprehensive Plan
- Specific recommendations for each CRD and CRA within their respective area of the Comprehensive Plans

Additional design strategies and tools for sustainable site and building design, as well as stormwater management best practices, include the following:

- US Green Building Council's [Sustainable Sites Initiative \(SITES\)](#)
- [Leadership in Energy and Environmental Design \(LEED\)](#) rating system created by the US Green Building Council
- [Bird Friendly Building Design](#) by the American Bird Conservancy



Ontario, Canada

DESIGN STRATEGIES

- A. For specific design guidance related to sustainable site and building design, refer to the above-mentioned County guidance. Additional design strategies related to sustainable stormwater management are provided in *Section 2L ("Sustainable Street and Streetscape Design")* and in *Appendix A2 ("Sustainable Design Toolbox")*.
- B. Strategies should be considered to make the building facade and site structures visible as physical barriers to birds. Building elevation features should incorporate visual variations in glass and façade treatments to reduce collisions by helping birds distinguish buildings from the surrounding habitat. Site and building lighting should be shielded to minimize attraction to birds at night. Highly reflective glass, particularly in areas that will reflect sky or vegetation, should be avoided. See LEED P.C. 55 for information on bird-friendly building and site design features.



Santa Monica, CA

TOP

Sustainable design features are incorporated into LEED-certified parking garage. Features include: solar panels on the rooftop, a reclaimed gray water system, recycled construction materials, and educational signage
Image Credit: Archello