This is a first draft of the Pentagon City plan. We expect that it will change and evolve based on community and stakeholder review and comment. Thank you for your work reviewing this plan.
# CONTENTS

## The Pentagon City Vision .......................................................... 1

Pentagon City is ready for a new generation of Metro area development ................................................. 2

Planning Principles ............................................................................. 6

## Planning Analysis ................................................................. 17

How is development amount related to transportation capacity? .............................................................. 18

How does economic feasibility shape what could be developed? When will change happen? .................. 28

What public space improvements are needed for Pentagon City to thrive? .............................................. 30

## Pentagon City Development Framework ......................... 33

1. Land Use and Development ........................................................... 34
   - 1.1 Future Land Use ...................................................................... 36
   - 1.2 Density and Value .................................................................. 38
   - 1.3 Buildable Site Boundaries ....................................................... 48
   - 1.4 Site Coverage ....................................................................... 50

2. Transportation ............................................................................. 52
   - 2.1 Street & Path Network .............................................................. 54
   - 2.2 Bicycle Facilities .................................................................. 60
   - 2.3 Transportation Demand Management (TDM) .......................... 62

3. Public Realm ................................................................................ 64
   - 3.1 Biophilic Design .................................................................... 66
   - 3.2 Parks and Plazas .................................................................. 70
   - 3.3 The Green Ribbon .................................................................. 72
   - 3.4 Green Connections: 22202 and Beyond .................................... 74

4. Site + Building Form ................................................................. 76
   - 4.1 Sustainable Design .................................................................. 78
   - 4.2 Building Height ....................................................................... 80
   - 4.3 Building/Public Realm Edge ..................................................... 82
   - 4.4 Walks: Safe, Convenient, Inclusive, Active, Green .................. 84
   - 4.5 Retail and Active Edges ............................................................. 86
   - 4.6 Parking & Servicing ................................................................. 88
   - 4.7 Upper Floor Stepbacks & Sculpting .......................................... 90
   - 4.8 Upper Floor Public Realm Encroachment ............................... 92
   - 4.9 Building Composition .............................................................. 94

## Appendix .................................................................................. 97

- Green Ribbon Design Guidelines ............................................... 99
- Example Illustrative Plan Evolution Over Time ......................... 111
The Pentagon City Vision
Pentagon City is ready for a new generation of Metro area development.

This document outlines a vision and updated development framework for the Pentagon City PDSP as well as the adjacent RiverHouse site.

Since 1976, the Pentagon City Phased Development Site Plan (PDSP), in conjunction with Arlington County’s General Land Use Plan (GLUP) and Zoning Ordinance, has guided growth and development around the Pentagon City Metro Station. The PDSP established a vision of a “new town in town” on this formerly-industrial land, creating a regulatory framework that allows a wide range of uses and trading of density between parcels. The PDSP also created Virginia Highlands Park. Today, the Pentagon City PDSP has over an estimated 11 million square feet of approved mixed-use development within a Metro station area of approximately 116 acres.

RiverHouse, a 35.8 acre community with three 1960s apartment buildings is located east of the Pentagon City PSDP along Joyce Street. While not part of the PDSP regulatory framework, RiverHouse is included in the Pentagon City Plan because of the existing higher density of development, the potential for future development on parking lots and other infill sites on the large parcel, and the desire to plan for both sides of Joyce Street as a corridor. The PDSP, Plan Study Area, and RiverHouse parcel are shown in the study area map on the opposite page.

In 2018, Amazon committed to establish a new East Coast headquarters, with over 25,000 employees, within the Pentagon City PDSP in new development at MetPark (under construction) and Pen Place (under review). As shown in the residential and employee density map on this page, once the Amazon projects at PenPlace and MetPark are complete, Pentagon City will have an overall density of employees and residents similar to Crystal City today. These two metro areas are part of the broader 22202 area.
Pentagon City PDSP boundary

Pentagon City Planning Study area

Pentagon City is also part of the National Landing area which includes Crystal City to the east.
WHAT IS THE PENTAGON CITY PLANNING STUDY FOR?
For more than four decades, the County has developed or updated a long-range plan for each of its Metro Station areas and other special planning areas identified on the GLUP to further articulate the land use vision for a specific area. Typically, these long-range plans include the potential for additional development on sites close to transit, which is intended to attract developers to participate in the County’s special exception site plan review process and help achieve community goals. The Planning Study identifies the conditions under which additional density is appropriate; the expectations for the urban design, public realm, and community benefits of that development; and establishes a regulatory framework to achieve it.

DEMAND FOR DEVELOPMENT
Six redevelopment projects in the 22202 area have recently approved site plans. These include 2 million square feet of office use at Met Park, 235,000 square feet of office at 101 12th Street, and over 1,877 units of housing in three projects at 1900 Crystal Drive, 2001 Richmond Highway, and 400 11th Street. These projects all include varying amounts of neighborhood-serving retail. Crystal Houses received an approved site plan for further housing development.

The demand for mixed-use development, particularly housing, remains strong. Current final and preliminary site plans, with the exception of HQ2, are predominantly proposed as residential uses with accessory retail.

Most importantly, property owners in the Pentagon City area have indicated that they are interested in redeveloping their sites through the County’s special exception site plan review process in the near- and mid-term.

LIVABILITY 22202
Livability 22202 is an ongoing collaboration of three civic associations in the South Arlington (22202) area: Arlington Ridge, Aurora Highlands, and Crystal City to develop holistic strategies based on shared livability themes to create a better, more livable city and stronger community. Livability 22202 responds to the large development and infrastructure changes occurring and contemplated in the 22202 area, aiming to leverage new investments to improve quality of life and prevent negative impacts on established communities.

The Livability 22202 framework is designed to work within existing county plans and policies, but aims to establish consensus-driven themes while allowing for creativity by residents, businesses, and developers. Livability 22202 has developed an Action Plan with strategies to help implement the framework and maintains working groups focused on the Route 1 Corridor Study, the Future of the Underground, Day Care and Schools, Housing, Open Space, and Theatre Venue. As these working groups illustrate, the effort is focused on both long-term initiatives and needed short-term improvements.

Input and ideas from Livability 22202 directly informed the planning principles and concepts in this plan.
The Livability 22202 Open Space Workshop Report includes this diagram that demonstrates the opportunities to connect existing public and green spaces in 22202 into a broader network, directly informing ideas for the Green Ribbon. Image courtesy of Laboratory for Architecture and Building for Livability 22202.
Planning Principles

The Pentagon City planning principles identify the core community values that should guide future decisions on major changes affecting community quality of life. The planning principles express the intentions of more specific County policies and regulations that will significantly influence real estate development, infrastructure, and County services.

Planning principles are an important reference and tool that guide future development review processes, regulation, and capital investment. The five principles articulated on the following pages are a record of the intent and spirit of this planning effort.

Planning principles are used by the site plan review team to distinguish between competing priorities in redevelopment, to better understand tradeoffs in those instances where there are competing priorities, and to establish a basis for considering flexibility and deviations from the plan in the future to achieve overall goals.

These planning principles were established through intensive community participation to guide the future of Pentagon City and site plan review at multiple levels. Planning principles also inform other County initiatives, helping answer questions including:

- When and why improvements to public facilities should be considered?
- What future capital projects may be warranted?
- How best to coordinate with other agencies (local, state, and federal)?
- Should other adopted policies/plans be revisited?

Finally, planning principles are a record of key priorities for not only future site plan processes but other levels of future planning, including sector and areas plans like this one as well as potential future revitalization districts/GLUP notes, Phased Development Site Plans (PDSPs), and zoning ordinance regulations.

The Pentagon City Planning Study established five planning principles to guide future development and investment in the study area. Because of the importance of connecting and integrating future development in Pentagon City into the broader National Landing and 22202 area, the principles also address the district as a whole. Supporting elements help further explain how the principles may apply. The performance metrics help evaluate progress towards the planning principle; they may usefully inform review of individual projects, but are more importantly a measure of success for the study area as a whole.
The corner of 12th Street and Fern Street becomes a key node of the district, with new protected bike lanes along Fern Street, the Transitway and an excellent pedestrian-oriented retail streetscape along 12th Street, and new development at the Brookfield site. Long-term, additional sites including the northernmost block of Fern Street at Army Navy and the Costco site may redevelop.

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COORDINATING AT A DISTRICT SCALE

Pentagon City will fill the missing links—physical and over time—to become a cohesive neighborhood connected to the broader 22202 community.

Supporting Elements

- Development in Pentagon City should connect to and strengthen the broader National Landing and 22202 community.
- Large parcels and varied redevelopment timelines could create missing links in critical infrastructure and gaps in quality of the public realm.
- Improvements need to happen beyond the scale of the individual building or block – through larger coordinated efforts with the collaboration, financial, and planning tools need to support them.

Performance Metrics

- Universally-accessible and/or improved connections from all surrounding neighborhoods, improved intersections, and gateways
- Achievement of new or improved community services, infrastructure, and cultural amenities

A new plaza at 12th and Hayes Street forms a major gateway to the Green Ribbon. The Green Ribbon is a district-wide network of paths that link public spaces, major destinations, and transit. The Green Ribbon should extend beyond the PDSP to the broader 22202 area.

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This view of the same plaza from above shows in greater detail how the planning principles might be achieved to provide biophilia, places for people, and improved multimodal transportation options.
EQUITY

Welcome everybody from throughout the County, region and world to live, work, learn, and share culture

Supporting Elements

- Development will help support a community of all ages and abilities, with increased affordable housing. A new walkable elementary school will become a center of the broader 22202 community.

- The design of spaces and mix of uses will help realize Arlington’s commitment to equity and welcome a diverse range of people and cultural practices.

Performance Metrics

- Number of residents, number of jobs, number of visitors, racial diversity of residents and workers (by Census/Longitudinal Employer Household Dynamics (LEHD) measures)

- Number of confirmed affordable housing units produced

- Incorporation of County equity goals, policies, and programs into redevelopment

PLACES FOR PEOPLE

Fill streets and public spaces with people enjoying nature and community

Supporting Elements

- Streetscapes, ground floor building design, and public spaces will encourage walking, outdoor activity, leisure, and services.

- Because of biophilic design approaches, all residents/workers/visitors will experience nature in Pentagon City.

Performance Metrics

- Overall tree canopy, overall public space, per capita and percent pervious surface

- Number of privately-owned public spaces created

- Percentage of ground-floor street frontage with active uses
By identifying key public space investments like the Green Ribbon, expansion of Virginia Highlands Park, and Grace Hopper Plaza shown below, the Pentagon City Plan lays out a framework to achieve places for people and nature. The design of spaces should help support a community of all ages and abilities, and welcome a diverse range of people and cultural practices to live, work, learn, and share culture in Pentagon City. The location and amenities shown below are at the nexus of connectivity, biophilia, and equity.

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The corner of South Hayes Street and 12th Street is a busy, functional access point for rail and bus transit and the Fashion Centre at Pentagon City, but community members have also long sought a public gathering space here to deepen social interaction and district identity. A rebalancing of street space could create an active public square at this important district center and gateway for visitors.

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**TRANSPORTATION**
Provide safe, inviting transportation choices that make driving unnecessary

**Supporting Elements**
- Ridership of public transit, walking, and biking in Pentagon City will all increase.
- The pedestrian and bicycle network will be safe for all ages and abilities, protecting vulnerable users.
- There will be better walking, bicycling, and scooting connections to surrounding neighborhoods.
- Transit service frequency and access improvements will support local and regional travel.

**Performance Metrics**
- Number of bicycle trips, pedestrian counts, number of transit trips (WMATA, ART, VRE)
- Overall mode split and increase in multi-modalism
- Number of crashes involving vulnerable road users
- Overall Average Daily Traffic (ADT) and congestion
- Number of car-free households

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**GREEN DEVELOPMENT**
Development in Pentagon City will advance global standards for sustainable design

**Supporting Elements**
- New buildings will be energy efficient, low carbon, and/or biophilic.
- Building reuse and passive design strategies are encouraged.
- Development sites will address stormwater, heat island effect, and other climate adaptation.

**Performance Metrics**
- Progress towards Community Energy Plan goals
- Deployment of innovative new strategies to meet Community Energy Plan goals
Elements that could be part of a rebalanced Hayes Street include protected bicycle facilities, Green Ribbon paths, and additional gathering space. The current median of Hayes Street is located over the Metro tunnel and includes important ventilation and other equipment that can remain within a biophilic landscape.

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Looking west from the current Westpost at Pentagon Row Plaza at Joyce Street, redevelopment could create a strong east-west connection to the Metro.

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Planning Analysis

Critical Questions and Strategies
How is development amount related to transportation capacity?

The Pentagon City study area includes roughly 9.1 million square feet of existing occupied building development, with about 2 million square feet more under construction at Met Park and another 2.3 million square feet approved for development at Pen Place, for a total of about 13.4 million square feet. These figures are inclusive of RiverHouse as well as the Pentagon City PDSP, but do not include Pentagon Centre property, which adds nearly 1.2 million square feet of existing building space. This development is part of the nearly 40 million square feet of development present within the greater 22202 area of Arlington, including the Crystal City, Aurora Highlands, and Arlington Ridge neighborhoods. While the transportation network impacts of this built and approved development have been studied or demonstrated to be acceptable, ambitions for future development raise the question of how the multi-modal transportation network may need to evolve to capably serve existing community members as well as future ones.

Community goals for transformative improvements to Pentagon City’s public realm, social equity, and environmental performance, and property owner goals for redevelopment or expansion of existing property to capture new market potential, can support each other. Arlington and its real estate development community have a strong track record of partnership by which new private investment helps Arlington invest in additional infrastructure, affordable housing, and other community development priorities. In Pentagon City, the scale of potential new development is significant, owing to the strong market position of its location, available redevelopment sites, high-capacity transit service, and the scale thresholds that influence whether a property owner will redevelop existing property. The development created at Met Park over the past 20 years, incorporating residential, office, and retail space in buildings rising nearly 20 stories around a park and approaching a floor area ratio of 6, demonstrates the potential scale and form of a next generation of development. Property owners have already proposed, at least informally, roughly 6 million square feet of new development beyond the 13.4 million existing and approved. This study examined possibility for further redevelopment at this scale on additional properties and over twenty or more years, and found potential for an overall net gain of nearly 10 million square feet (see charts on next page). But again the question emerges, how would development and the transportation network need to evolve together to make this feasible?

Successful urban districts of the densities contemplated at Pentagon City depend on:

- Street, block, and building form that facilitate a high level of pedestrian accessibility and public realm amenity, with capacity to accommodate significant amounts of mixed residential, commercial, and civic/institutional development;
- Robust multi-modal transportation infrastructure and services, with emphasis on pedestrian, transit, and bike access to minimize dependence on personal vehicles and their high space needs and costs;
- A culture of transportation use that highly values and utilizes alternatives to driving, in ways that support community and economic development opportunity. This is measured in terms of mode share—the percentage of trips taken by different travel...
modes including single-occupancy personal vehicles, multiple-occupancy private vehicles, ride-hail, transit, biking, and walking.

These elements have dynamic relationships with each other that cannot be fully predicted at this time, and that in fact will depend on ongoing study and working relationships among government, community, and private sector partners. Transportation modeling conducted during this planning study examined vehicle volumes and trips, but needs to be supplemented with analysis of other transportation modes for a full picture of how travel behavior may continue to change. Yet the vision and plan for Pentagon City can and must provide an enduring framework within which these relationships can evolve—streets and other transportation corridors that together have the capacity and flexibility to accommodate significant growth.
in walking, transit use, and biking, while minimizing growth in driving. The specific configuration and mix of transportation modes along any given public access way may require additional transportation and design study beyond the scope of this effort, but the plan aims to ensure that adequate space and network connections are present along these corridors to accommodate a wide range of future conditions.

Toward this end, the planning effort utilized the following analysis steps, described further below:

- Review development and transportation trends in the study area.
- Working within current limitations of personal vehicle trip capacity, identify the changes in travel behavior, infrastructure and service needed to maintain balance.
- Identify priority changes to the boundaries of existing transportation corridors, and important new corridors, to provide clarity on what land area may be dedicated for development, and what land area should be dedicated to public access ways in order to equitably serve stakeholder transportation needs.
- Identify transportation questions that require further study over time, addressing more specific projects, sites, information, and community priorities.

Development and Transportation Trends

Arlington studied development and transportation trends in the 22202 area from 1980 to 2019. Important findings included:

- Since 2000, average weekday daily traffic dropped 18% even as developed building area increased 28%. This period included a time of high office space vacancy peaking at 24% in 2013 due to economic conditions and BRAC relocations, but by 2019 the area had its highest-ever amount of occupied office space owing to reduced vacancy and new construction. Traffic levels in 2019 registered a minor 1.4% increase over their lows in 2015, but remained far below their 2000 peak.

- Since 1980, average weekday daily traffic volume counted at five key points along Arlington Ridge Road and 23rd Street decreased 3.2% even as developed building area in 22202 doubled. This in part reflects increased transit use since the 1976 opening of the Pentagon City and Crystal City Metro stations, and parallel reinforcement of bus services, both by occupants of new transit-oriented development and by residents of long-established neighborhoods. New and improved pedestrian and bike facilities have also reduced the prevalence of driving trips. All of Arlington’s Metro station areas have demonstrated comparable shifts in travel behavior.

- There is significant untapped capacity on Metrorail. Weekday passenger boardings at Pentagon City and Crystal City peaked in 2011, then dropped until 2016, and have increased again, registering a 6% increase since 2000. Since about 2000 Pentagon City and Crystal City stations have had similar daily usage, and their service has substantial capacity for additional riders. Preliminary analysis indicates that 10 million square feet of development could add roughly 8,000 weekday riders, representing an increase of about a third over the 2019 combined totals for Pentagon City and Crystal City, and a slight increase over the 2011 peak. Increased Metrorail ridership can benefit transit users by justifying additional service.

- 24% of households in the Pentagon City, Crystal City and Potomac Yard areas own no motor vehicles, utilizing available walking, transit, biking, car-share and ride-hail opportunities instead. The number of car-free households in these areas grew by 1,100 between 2013 and 2018. This demonstrates that these areas already enable living without owning a vehicle, and that new
residents arrive with reduced expectations of car ownership and use. A 2017 survey of residents of Crystal City’s North Tract Lofts indicated that residents made only 21% of their trips by single-occupancy vehicle.

Several other conditions apart from the historical analysis demonstrate untapped potential for increasing the share of trips made by foot, transit, and bike:

- Pentagon City has extensive bus service, including Arlington’s heavily-used Columbia Pike corridor service and the Metroway service south to Alexandria, served by a dedicated Transitway that will be extended into Pentagon City along 12th Street to South Hayes Street. A new bus facility across Army-Navy Drive from the Fashion Centre will supplement the heavily used bus bays at Pentagon and Pentagon City Metro stations.

- Arlington is investing $270 million in 22202 area transportation infrastructure through ongoing and planned capital projects. These include the 12th Street Transitway, reconfiguration of Army-Navy Drive, and new bike facilities on South Eads Street and 15th Street.

- The existing pedestrian network is inconsistent. While portions of it are heavily used and/or of good quality, it suffers from missing connections, inadequate width or quality, and challenging street crossings in many places. Correcting these gaps and inadequacies would significantly improve the convenience, appeal, safety, and capacity of the study area’s walking infrastructure.
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Network of Public Access Ways

The development framework outlined in the next chapter identifies critical new connections and improvements to existing facilities within Pentagon City’s public access network. The diagram on the facing page indicates the layout and width of the principal existing streets. In some cases, the framework calls for expanding the width of existing street corridors where necessary to accommodate potential sidewalk widenings and/or bike lanes that are physically separated from traffic. In most cases these also maintain or add space for additional street trees and/or public open space. These widenings are typically kept to a minimum, since very broad streets can detract from the pedestrian experience—South Hayes and South Joyce Streets provide evidence of this. The proposed framework fills pedestrian and bike network gaps that have long been acknowledged. Some new connections may not come for decades due to existing obstacles, but many of the most important ones can be implemented within the coming five years as part of contemplated redevelopment and ongoing County investments.

One common measure of the capacity and resilience of public urban access networks is intersection density. Higher intersection densities —meaning more frequent crossings of streets — typically produce a higher quality walking environment due to more choices of potential paths for travel, more direct routes, greater number of
streetfront destinations, and decreased vehicle speeds. The LEED for Neighborhood Development sustainable design standard calls for at least 140 intersections per square mile as a prerequisite, and perimeter street connections at least every 800 feet. Today, the Pentagon City study area has about 90 intersections per square mile (using 0.3 square miles as study area size), and multiple intervals between streets exceeding 800 feet. Previously approved, but not yet implemented projects would increase intersection density to 107. The proposed framework adds public access ways (including streets with vehicular travel where possible, but also pedestrian-only or pedestrian/bike access ways) so that they are located no more than 500 feet apart where possible. New public access ways achievable in five to ten years would increase intersection density to 170 per square mile, exceeding the LEED-ND standard. Additional connections possible over the longer term would increase density to 187. This doubling of intersection density in Pentagon City will exponentially increase options and convenience for multi-modal travel in 22202.

Further Study

This study has indicated a number of follow-up transportation studies that are merited to further explore improvements related to certain travel modes, locations in the study area, or potential development projects. Future studies will gain the benefit of more information and/or community engagement not available in the timeframe of this study, in areas such as travel technology, Covid-19 impacts, forthcoming development proposals, and future traffic and mode share data. Example studies include:

- Pentagon City bike network, including integration with Crystal City bike plan and broader Arlington bike infrastructure.
- Potential reconfiguration to South Hayes Street, with attention to goals and issues including
  - Implementing protected bike lanes
- Removing traffic lanes
- Further improvement of bus facilities beyond the planned Transitway
- Reconsider design of the median for opportunity to enhance certain transportation modes and/or useable public open space while working within constraints imposed by the Metro tunnel below
- Multi-modal transportation analysis and potential new infrastructure associated with future development proposals
- Curbside management addressing increased demand for pick-up/drop-off space, reduction in parcel driveway space, and trade-offs where curb space, vehicle lanes, bike facilities, sidewalks, transit, and streetscape compete for limited corridor width.
- Performance standards for Transportation Demand Management (TDM)
How does economic feasibility shape what could be developed? When will change happen?

Development Feasibility

Redevelopment happens because of a number of factors, including: economics, where there is a higher and better economic use for the property that will generate a return; long-term economic development, where redevelopment will unlock significant additional opportunities; and civic or social motivation, where removing a negative influence or creating a landmark is important.

A general rule of thumb for when redevelopment may make sense is when the redeveloped project’s value is three to four times the value of the existing asset—this is particularly relevant in Pentagon City where most are improved with existing buildings. When a project’s yield, or the Net Operating Income of the redevelopment project divided by the Cost of the project, satisfies a developer’s minimum investment threshold redevelopment is feasible.

Minimum investment thresholds change over time. The minimum yield depends on many factors including the cost of money, the land use, the market, and perceived risk. Different developers also have different investment thresholds that largely depend on their appetite for risk.

Office development generally has a higher investment threshold than residential. Right now in Pentagon City, an investment threshold for a residential project of apartments may be 5.5%-6.5% and office 7.5%-8.5%. When a redevelopment project’s yield is above the minimum investment threshold there is an opportunity for developer contributions towards infrastructure and community benefits. Again, yields and investment thresholds are dynamic and will change.

The condition of existing property—whether it is under-utilized property, improved and obsolete, or improved and functional—highly impact the economics of redevelopment in Pentagon City and potential community benefits.

- Under-utilized property includes sites like RiverHouse, Regency Care, and PenPlace where vacant land—including surface parking lots—can be developed. The redevelopment cost of these sites is lower, and mostly includes replacing surface parking as needed. Redevelopment of these sites is feasible at a lower allowable density, although there is higher developer contribution potential with higher density.

- Improved and obsolete property include sites like Brookfield. Redevelopment costs on these sites are moderate and include the cost of existing land, the value of an existing building, and the cost to demolish the site and make it ready for redevelopment. As a result, redevelopment of these sites, including developer contribution potential, is not feasible without significant increases in density.
Improved and functional property include sites like the Fashion Centre, Westpost at Pentagon Row, and while not in the PDSP, the Pentagon Centre Costco, that contain viable and valuable land uses with leases. To redevelop these sites may require buying out of those lease terms, or delaying redevelopment until the lease term ends. Lease buy-outs, high acquisition prices and demolition costs make redeveloping improved and functional property economically challenging, if not infeasible. Rather than extracting community benefits, the County would likely need to participate in a public-private partnership to incent redevelopment of improved and functional properties.

Redevelopment Phasing

The planning process included multiple rounds of stakeholder interviews with property owners as well as market analysis to help identify properties that are likely to redevelop and their potential timing. While these classifications, particularly property owner interest in the timing of redevelopment, are subject to change, this understanding informed the plan, with a high-level focus on near-term sites that could deliver near-term community benefits and infrastructure.

Sites with near-term potential include:

- RiverHouse
- Brookfield
- Re-tenanting of spaces at Westpost Pentagon Row (potentially requiring a Site Plan Amendment)

Sites with mid-term potential include:

- Some portions of the Fashion Centre site
- Regency Care

Sites with long-term potential include:

- Possible redevelopment at Westpost at Pentagon Row, including existing parking lots
- Remainder of Fashion Centre Site
- The Costco site within the Pentagon Centre PDSP
What public space improvements are needed for Pentagon City to thrive?

From the beginning of the Pentagon City Planning Study process, it was clear that expansion and improvement of public space is a necessary foundation for further development in Pentagon City. High quality public spaces not only serve practical needs supporting quality of life and economic development, but also are poised to emerge as a signature defining feature for Pentagon City, National Landing, and 22202. From a combination of County-led plans and the grassroots Livability 22202 initiative, these six priorities emerged to shape the public realm recommendations described later in this document:

- **Virginia Highlands Park** already serves as one of the study area’s most important assets. This relatively large park, tripled in size by the original 1976 Pentagon City Master Plan, serves a variety of active and passive park functions, helps transition between the larger scale development of Pentagon City and the smaller-scale development of the Arlington Ridge and Aurora Highlands neighborhoods to the south and southwest, and accommodates significant daily pedestrian movement between Pentagon City and those neighborhoods. Because a dedicated County-led community planning process for updating Virginia Highlands Park is planned, this planning process anticipates the potential for updates and reinvestments in the park without pre-defining what those should be.

- **A need for additional public space** not only to serve the growing numbers of Pentagon City residents, workers and visitors, but to provide types of park spaces not sufficiently present, such as spaces serving families living in multifamily buildings. Much of this new space may be more urban in character than conventional park space, shaped as “outdoor rooms” by buildings and mature trees, with paved areas mixed in with low plantings and tree canopy, to accommodate intensive and varied uses within a set of relatively small parks, squares, and plazas dispersed across blocks with high-density mixed-use development. These spaces can be well suited to serve the Arlington Public Spaces Master Plan’s goal of adding spaces for casual, impromptu use and connection to nature.

- **Green path connections to parks** within and beyond Pentagon City would offer particular value, as emphasized in the Livability 22202 Action Plan. Pentagon City and 22202 are located near important County and regional park resources like Long Bridge Park and the Potomac riverfront; safe, landscaped path connections to these resources would provide great value not just to people in Pentagon City but also those throughout 22202. Path connections for walking and/or biking would serve this plan’s goals of expanding quality multi-modal transportation choices.

- **Equity of public space access** for all people in and around the study area is a fundamental County priority. Features that help promote equitable access include wide distribution of public spaces and path connections activities across the study area, programming and design supporting activities serving a broad range of cultures, races, ages, and other demographic characteristics; and public control (by easement or ownership) of public spaces to ensure free public access.
Pentagon City and its environs contain some of the least tree canopy of any district in Arlington. This plan seeks to achieve at least 15% tree canopy to be consistent with standards of Arlington’s Urban Forest Plan. Added tree canopy will provide diverse benefits including more comfortable microclimate for outdoor activities, reduced energy use and carbon impact for buildings and transportation, improved personal connection to nature, and strong sense of place.

Biophilia, or the experience of nature, is a strong theme in the Livability 22202 recommendations and a priority for Arlington as a whole. This plan seeks to provide people the wellness benefits of biophilia in a variety of means and forms – not only via trees and plantings in public streets and parks, but through plantings on ground and upper levels of development sites, and through architectural features that incorporate natural patterns.

**Important sources for these priorities include:**

**Arlington Public Spaces Master Plan**

The Pentagon City Planning Study can particularly help advance these PSMP Priority Actions:

- **1** (add at least 30 acres of new public space in 10 years)
- **2** (secure or expand the public spaces envisioned by sector, corridor, and other plans...)
- **5** (ensure access to spaces that are intentionally designed to support casual, impromptu use and connection to nature)
- **7** (develop park master plans ... when renovation of an existing park requires a major rearrangement of park amenities)
- **8** (ensure and enhance access to the Potomac River, Four Mile Run and their tributaries...)
- **9** (expand Arlington’s network of connected multi-use trails)

**Urban Forest Master Plan**

**Livability 22202 Overview, Action Plan, and Open Space Workshop Report**

**Community engagement** conducted during this planning process. Public realm planning was an early focus of conversation and draft concepts.
Pentagon City Development Framework
1. Land Use and Development

The proposed future land use and development framework will guide future development to create a welcoming, walkable Pentagon City with a thriving, biophilic public realm.

- The General Land Use Plan and Land Use Mix allows for greater flexibility of uses. When combined with other requirements for density, site boundaries, and site coverage, this will allow for a finer-grain of mixed-use development throughout Pentagon City.

- The future Distribution of Density and Community Benefit Value helps ensure that future development and density achieves the Pentagon City Planning Principles, establishing a framework for the public realm improvements and other community benefits that must accompany future density. The framework establishes how density can be distributed to facilitate the planning principles by facilitating desired redevelopment; maximizing activity and vitality near major transit resources like the Metro, 12th Street Transitway, and major bus service on Hayes Street and Army Navy Drive; and support a walkable and active public realm.

- Buildable Site Boundaries establish desired new connections and public access to allow the block network to evolve as redevelopment occurs.

- Recommendations for future Site Coverage ensure that future development will include additional open space. Standards establish a minimum for landscaped area, while allowing for additional flexible open space that may be landscaped or hardscaped with amenities.
Multi-family residential development on the northern end of the RiverHouse site creates two-sided Joyce Street.

Largest scale of development is located in blocks along and north of 12th Street.

12th Street includes ground-floor retail and mixed-use destinations that support high level of pedestrian activity and transit ridership.

Multi-family residential development on the southern end of RiverHouse is lower in scale. Infill buildings frame new public spaces, including an expanded Virginia Highlands Park and Green Ribbon pathways.

Development along the southern border of RiverHouse should be the lowest in scale to transition to Aurora Highlands and Arlington Ridge, and may offer opportunity for townhouses or other desired housing types.

Redevelopment of private properties within the study area will contribute to strategic public realm improvements, sustainability, and affordable housing. As a result, subsequent processes to identify a potential school site should focus on County-owned properties within 22202 such as the Aurora Highlands Library/Community Center site (as one example).
1.1 Future Land Use

GENERAL LAND USE PLAN AND LAND USE MIX

The future land use plan encourages a mix of residential and commercial uses throughout Pentagon City to maintain activity throughout the day and week, enhance economic resiliency, and gain the efficiency benefits that mixed uses offer for mobility infrastructure and energy use. The plan also allows for flexibility to encourage more timely reinvestment and redevelopment of property by reducing land use permitting constraints, including for re-tenanting of existing retail and commercial spaces.

Community-serving uses are encouraged throughout the district, including as part of a larger building and may be particularly appropriate near transit services, the Green Ribbon, and other major public spaces where community-serving uses can augment retail as an active ground level use option along multiple public streets and walks in Pentagon City. This will enable greater range and capacity of services in proximity to all of Pentagon City’s growing population, while continuing to conveniently serve the greater 22202 community.

Policy Approach

- In the Pentagon City PDSP area currently zoned C-O-2.5, the future GLUP category of High Office-Apartment-Hotel indicates a land use vision like Crystal City, Rosslyn, and other high-density, mixed-use Metro area.

- At the RiverHouse parcel, the future GLUP is increased from its current medium density residential to high density residential. Redevelopment at RiverHouse is envisioned to be predominantly residential, retaining the existing buildings on site, with accessory retail and amenities at key locations per retail plan. Because this is a single site area, GLUP changes would be completed at the time of redevelopment.

- On any multi-building development parcel throughout the study area:
  - Land use mix is unconstrained within designated allowable uses, to allow for targeted response to future market conditions or other factors. Exception: ground level retail or other active use may be required per 3.4.4.
  - Where office building(s) are proposed, at least one additional building with a significant residential, hotel or weekend/ evening destination use should be already present or proposed on same block.

- Encourage broader dispersal of community-serving uses across district, including as accessory ground level use in mixed-use buildings. Community-serving uses include those present today at the Aurora Hills Community Center (library, recreation, senior services) as well as others such as daycare, youth center, education, and others that may emerge to meet the needs of neighborhood residents.

- Redevelopment of private properties within the study area will contribute to strategic public realm improvements, sustainability, and affordable housing. As a result, subsequent processes to identify a potential school site should focus on County-owned properties within 22202 such as the Aurora Highlands Library/ Community Center site (as one example). Further analysis by APS will be required to solidify: the projected growth in this area and surrounding areas, timing for growth and relationship to school capacity, and further suitability of this site as part of a school siting process.
The land use mix allocated in the original Pentagon City PDSP, combined with the pre-existing RiverHouse development, was composed of more than 70% housing, and more hotel space than office or commercial. Over decades, entitlements to develop specific amounts of specific land uses were exchanged among uses and parcel owners, and some additional development rights were transferred into the PDSP, resulting in the currently built and approved mix. The modeled scenario for new development is about two-thirds housing, one quarter office, and the balance hotel and commercial, informed by current market conditions, but is intended to be flexible to accommodate changing markets. Combining existing approved development with the scenario yields a mix with ranges for each land use. At least half of developed area would be housing, and at least a quarter office.
1.2 Density and Value

Due to the variety of sites, existing uses, and property owner goals, there is significant variability in the feasibility and the likely phasing of reinvestment across Pentagon City. The Plan focuses in greatest detail on near-term redevelopment sites that will provide proposed physical improvements, including improved and new public spaces as well as infrastructure that help enable redevelopment that serves the planning principles and vision. Sites that redevelop in later phases will be responsible for greater funding contribution towards community benefits and future infrastructure needs to achieve the planning principles, including future resiliency needs.

All increased density must mitigate its impacts, including on transportation and utility infrastructure. Impacts are evaluated as part of the site plan process.

Policy Approach

■ Where redevelopment of underutilized infill sites or buildings is proposed: allow significant increases in existing site density as part of the special exception site plan process in order to make redevelopment feasible and achieve significant land use, community benefit, urban design, and transportation goals. Achieving additional density requires a mode split and transportation plan, analyzed and reviewed as part of the MMTA process, that fulfills the transportation planning principle for the area.

■ In the Pentagon City PDSP area, properties that provide significant community benefits that achieve the goals of this plan may be able to achieve density of FAR 7-9. In exceptional cases, a higher FAR may be appropriate. Floor Area Ratio (FAR) is a measure of the area of building on a site compared to the size of the site.

■ At the RiverHouse parcel, future density should be lowest along the southern boundary of the site to transition to the Aurora Highlands neighborhood. Density and building height should be lower in the southern portion of the site, and highest in the northern portions of the site and along the Joyce Street corridor.

■ Density is also regulated by the interaction of multiple levels of guidance in this plan, including:
  ■ General FAR and/or dwelling unit/acre cap
  ■ Multimodal trip generation, mode split, and transportation capacity through the MMTA process
  ■ Public realm - including public space and access aways - and lot coverage requirements for a site
  ■ Building height and massing guidelines

Site by site summaries are included on the following pages.
DISCLAIMER: THIS ILLUSTRATIVE PLAN IS AN ARTISTIC RENDITION OF ONE WAY THE PENTAGON CITY PLAN VISION AND RECOMMENDATIONS FOR THIS ELEMENT CAN BE ACHIEVED, FOR ILLUSTRATIVE PURPOSES ONLY.

RiverHouse Parcel
Future land use of high-density residential; overall increase in density from 47 units/acre to up to 150 dwelling units/acre as part of special exception site plan process that achieves the community benefits and infrastructure detailed in this plan, including new and improved public spaces.

The tallest buildings should be located north of the Green Ribbon; buildings in the southern portion of the site should transition to surrounding neighborhoods.

Pentagon City PDSP
Future land use of High Apartment (4.8 FAR)-Office (3.8 FAR)-Hotel (3.8 FAR)
Redevelopment achieves a range of Floor Area Ratio (FAR) of 7-9 as part of special exception site plan process that achieve the community benefit goals of the plan. Higher FAR may be possible on sites with unique constraints and exceptional opportunity for community benefits.

Pentagon Centre PDSP
No changes proposed at this time to density or land use regulation.
RiverHouse (South of Green Ribbon/15th Street)
- Density limited to no more than 150 dwelling units/acre across entire site
- Multimodal trip generation, mode split, and transportation capacity through the MMTA process
- Public realm requirements and access ways include:
  - Expansion of Virginia Highlands Park and improvements to Grace Hopper Park
  - Creation of Green Ribbon segments throughout the site, including dedicated bicycle trail from Grace Hopper Plaza to Lynn Street
  - Easement for Joyce Street streetscape and protected bicycle facility
- Building coverage requirement:
  - 55% maximum building coverage at and below 5 stories, 30% maximum building coverage over 5 stories
  - 15% minimum planted area, 5% minimum alternate planted area
- Building height and massing should be lowest along southern boundary of site and transition to single-family neighborhoods to south and west, making use of topography, landscaping, and lower building heights.
  - Within 75 feet of R2-7 zone, height limited to 5 stories; form should transition to 3-4 stories where it faces the R2-7 zone
  - In other areas within 150 feet of R2-7 and R-10 zones, height limited to 8 stories; form should transition at least one story down where it faces the adjoining zones
  - In other areas south of 15th Street not addressed above, height may not exceed that of the existing RiverHouse Ashley Building
RiverHouse (North of Green Ribbon/15th Street)

- Density limited to no more than 150 dwelling units/acre across entire site
- Multimodal trip generation, mode split, and transportation capacity through the MMTA process
- Public realm requirements and access ways include:
  - Expansion of Virginia Highlands Park
  - Improvements to Grace Hopper Plaza
  - Creation of Green Ribbon segments throughout the site, including dedicated bicycle trail from Grace Hopper Plaza to Lynn Street
  - Easement for Joyce Street streetscape and protected bicycle facility
- Building coverage requirement:
  - 55% maximum building coverage at and below 5 stories
  - 40% maximum building coverage over 5 stories
  - 15% minimum planted area, 5% minimum alternate planted area
- Building height should be varied and arranged to ensure solar access to new public spaces.
Brookfield (12th Street and Hayes St)
- Density limited to 9 FAR, although may be exceeded for exceptional community benefit with sufficient transportation plan
- Multimodal trip generation, mode split, and transportation capacity through the MMTA process
- Public realm requirements and access ways include:
  - Creation of Green Ribbon through site, including public plaza space accessible from Metro
  - Public access route along the 11th Street alignment
  - Southbound bicycle facility along Fern Street
- Building coverage requirement:
  - 75% maximum building coverage at and below 5 stories
  - 55% maximum building coverage over 5 stories
  - 10% minimum planted area, 5% minimum alternate planted area
- Appropriate location for highest building heights.
  - If a multi-building development is pursued, 10-20% height difference between at least one building.
  - Follow design guidelines for height.
Fashion Centre (12th Street and Hayes St)

- Density limited to 9 FAR, although may be exceeded for exceptional community benefit with sufficient transportation plan or to enable optimal phasing of redevelopment

- Multimodal trip generation, mode split, and transportation capacity through the MMTA process

- Public realm requirements and access ways include:
  - Improvements to the pedestrian passageway through the Mall and connecting to Metro
  - Creation of pedestrian plaza space on Hayes Street
  - For longer-term development, new public space and new street access throughout the site in accordance with plan guidelines.

- Building coverage requirement:
  - 75% maximum building coverage at and below 5 stories
  - 55% maximum building coverage over 5 stories
  - 10% minimum planted area, 5% minimum alternate planted area

- Appropriate location for highest building heights, when along/north of 12th Street.

  - Follow design guidelines for height.
Other sites, including FRIT (Joyce Street), DEA Site (Army Navy Drive and Hayes), and Regency Care

- Density limited to 9 FAR, although may be exceeded for exceptional community benefit with sufficient transportation plan
- Multimodal trip generation, mode split, and transportation capacity through the MMTA process
- Public realm requirements and access ways include:
  - Retention or replacement of public space exceeding existing spaces like the plaza
  - For longer-term development, new public space and new street access throughout the site in accordance with plan guidelines.
- Building coverage requirement:
  - 75% maximum building coverage at and below 5 stories
  - 55% maximum building coverage over 5 stories
  - 10% minimum planted area, 5% minimum alternate planted area
- Appropriate location for highest building heights north of 12th Street.
  - If a multi-building development is pursued, 10-20% height difference between at least one building.
- Follow design guidelines for height.
COMMUNITY BENEFIT FUNDING POTENTIAL AND PRIORITIES

Increased density is only appropriate where it achieves the goals of this plan, including goals for community benefits. Community benefits may include the value of relevant on-site improvements, including public spaces and affordable housing units, or cash contributions to provide those benefits off-site, such as Green Ribbon segments on County property.

All redevelopment will have to mitigate its own impacts and include any necessary infrastructure improvements, including rebuilt streetscapes, new sidewalks, and utility infrastructure as needed.

As a planning principle, green building is required as a baseline for each site. Exceptional green building performance may be considered a community benefit.

Affordable housing contributions should advance current County housing goals. Currently, this is prioritized as on-site units, off-site units, and cash contribution to the Affordable Housing Investment Fund in order of priority. Other priorities include securing more family-sized units, including 3-bedroom units, affordable ownership opportunities, and physically accessible units.

Policy Approach

This plan establishes core community benefits as a baseline for redevelopment. There is greater certainty on these required benefits for near-term sites, whereas later-to-develop sites will be responsible for greater funding of community benefits, including infrastructure. All applications will be reviewed by staff and the County Board will determine/approve the site plan with any conditions of approval.

Large Sites with Near-Term Redevelopment Potential

- At the RiverHouse site, site plan conditions and targeted community benefits to enable higher density development include:
  - Expansion of Virginia Highlands Park
  - Improvements to Grace Hopper Plaza
  - Creation of Green Ribbon segments throughout the site, including dedicated bicycle trail from Grace Hopper Plaza to Lynn Street
  - Contribution to affordable housing

- At the Brookfield site, site plan conditions targeted community benefits to enable higher density redevelopment include:
  - Creation of Green Ribbon through site, including public plaza space
  - Public access route along the 11th Street alignment
  - Southbound bicycle facility along Fern Street
  - Contribution to affordable housing

Large Sites with Mid-Term Redevelopment Potential

- At the Fashion Centre site, site plan conditions community benefits to enable higher density and redevelopment include:
  - Improvements to the pedestrian passageway through the Mall and connecting to Metro
  - Creation of pedestrian plaza space on Hayes Street
For longer-term development, new public space and new street access.

Contribution to affordable housing

**Large Sites with Longer-Term Redevelopment Potential**

- At other sites, site plan conditions required community benefits to enable higher density include:
  - Multi-modal infrastructure or public space enhancements as indicated in this framework, and as may be identified through future planning processes, such as a new Master Plan for Virginia Highlands Park
  - Increased contributions to affordable housing
  - Exceptional green building performance

**Approach to Re-tenanting, Improvement, and Renovation of Existing Developments**

Throughout the PDSP, there may be projects that require site plan amendments for re-tenanting of spaces, updates to the public realm or indoor-outdoor spaces, or renovation of existing structures that fall well short of redevelopment. Any such site plan amendments should advance the planning principles and framework in this plan, and must add biophilic features.

When such projects add additional floor area through minor additions, they should deliver community benefits commensurate in value to the addition. In all instances, improvements that fall short of full redevelopment should avoid impeding areas designated in the plan for future public space or right-of-way connections.
Page intentionally left blank to allow for graphic refinements or additional content in response to comments.
1.3 Buildable Site Boundaries

New and improved access routes that establish buildable site boundaries will help subdivide the oversized blocks of Pentagon City and ensure that redevelopment increases the overall public realm.

This framework will help achieve the goal of the 1997 Pentagon City Task Force Report to insert a finer-scale network of streets designed for pedestrians. This has begun to materialize in recent projects. The framework will help ensure that connections are made across parcels, allowing for shared access and that there is adequate space to achieve the excellent pedestrian and bicycle facilities and biophilic streetscapes.

Policy Approach

- Redevelopment of most large parcels—particularly ones over 4 to 5 acres in size requires dedication of some parcel area to new public access ways and/or park/plaza space. The diagram on the facing page summarizes this priority new public realm to be located on privately-owned sites. See also 2.1, 3.2, 3.3 and 4.3, for more context on these networks of public corridors and spaces. This new public realm will help expand development opportunity by providing essential access infrastructure and green amenity.

- The map on the facing page shows desired new access routes and connections; while the specific location of these routes may vary on specific sites and as redevelopment of neighboring sites may proceed on varying timelines, redevelopment should prioritize shared access and a cohesive block network that provides inter-block connectivity. Clear sightlines and easy navigation for pedestrians is the priority for all new access routes.

- New easements along existing streets, particularly South Joyce and South Fern, provide space for additional pedestrian and bicycle facilities and biophilic streetscapes.

- Where easements are specified along existing streets (e.g. South Joyce, South Fern), up to ten feet of the easement width may be accommodated in a pedestrian arcade under occupied building space. Arcade must rise at least as high as the ground floor, preferably two floors; no more than 5% of its frontage area may be obstructed with building structure (columns or piers); structure may not extend more than 3 feet horizontally and should not occupy more than 5% of easement site area.

Both the 1976 Pentagon City Master Development Plan and the 1997 Pentagon City Task Force Report identified new public access corridors needed to transform the area’s large parcels into a high-value, mixed-use, multi-modal district.
New access ways, including pedestrian access ways, created through redevelopment ensure an inter-connected block network.

DISCLAIMER: THIS FRAMEWORK SHOWS DESIRED CONNECTIONS TO BE MADE ACROSS AND BETWEEN SITES AND THE EXISTING BLOCK NETWORK. IT IS NOT MEANT TO SPECIFY A SPECIFIC RIGHT-OF-WAY OR FINAL ALIGNMENT. THE SPECIFIC LOCATION OF CONNECTIONS MAY SHIFT BASED ON NEEDS AND PHASING OF REDEVELOPMENT.

RiverHouse Parcel
30 foot easement along the Joyce Street frontage to enable creation of biophilic streetscape, including protected bicycle facilities.
New access ways should connect to Arlington Ridge and Aurora Highlands.
Relocation of S Joyce Street provides space for expanded park and new buildable frontage.

Fashion Centre and Westpost Block
Future accessways that provide connection through the site. Should align with future connections at Brookfield and Pentagon Centre.
Emphasis on pedestrian access to Metro through and across the block.

Brookfield and DEA Block
12 foot easement along the Fern Street frontage to enable creation of biophilic streetscape, including southbound protected bicycle facilities.
Shared accessway along northern boundary with DEA site that could connect to future Fashion Centre accessways.
1.4 Site Coverage

Throughout Pentagon City, redeveloping sites will be required to provide a minimum planted surface area alongside new buildings, access ways, and other groundcover. These requirements will help ensure that nature is present in Pentagon City; some sites may maintain existing planted areas and others may add new ones. Planted areas help support biophilic principles, as well as related goals for human and environmental well-being.

In addition to a minimum planted area, site coverage limits for the overall building site ensure that there is adequate spacing and distribution of building massing across the site. Lower maximum coverage above the fifth floor will help ensure building massing is sculpted and that views and daylight remain available between taller buildings.

The PDSP has higher maximum building coverage allowed than the RiverHouse site, because of the existing character, residential program, and landscape contours of the RiverHouse site.

Policy Approach

The figures below apply to redevelopment site area exclusive of any public access ways or access easements.

- **Minimum planted surface area at/near grade:** 10% (PDSP), 15% (RiverHouse).
  - Soil area provided for trees counts toward minimum, even if below paving
  - Up to half of this may be located upon a building/structure above grade

- An additional 5% of the site should be covered by vegetation in the form of one or more of one of these alternatives:
  - Planted area at grade
  - Planters and/or trellises upon a building/structure at or below the fifth floor
  - Green roof or terrace at or below the fifth floor

- Planted areas must comply with ongoing County policy for landscape quality and tree canopy. Native species are encouraged.

- **Maximum building coverage of site, fifth floor and below:**
  - PDSP north of 15th Street: 75%
  - PDSP south of 15th Street; and RiverHouse: 55%

- **Maximum building coverage of site, above fifth floor:**
  - PDSP north of 15th Street: 55%
  - RiverHouse north of 15th: 40%
  - PDSP and RiverHouse south of 15th: 30%

The diagrams on the opposite page represent allowable coverage by site, not by building. On sites with multiple buildings, the footprint and form of individual buildings may vary as long as the guidelines shown here are observed for the site as a whole. See 4.7, Upper Floor Stepbacks & Sculpting, for more guidance on building form.
Diagrams on this page represent allowable coverage by site, not by building. On sites with multiple buildings, the footprint and form of individual buildings may vary as long as the guidelines shown here are observed for the site as a whole. See 4.7, Upper Floor Stepbacks & Sculpting, for more guidance on building form.

- **≤ 75% building**
  - ≥ 10% planted
  - +5% additional vegetation
  - PDSP Area north of 15th Street

- **≤ 55% building**
  - ≥ 15% planted
  - +5% additional vegetation
  - PDSP south of 15th Street and RiverHouse

- **≥ 10% planted**
  - +5% additional vegetation

- **≤ 55% building over 5 stories**
  - Core PDSP Area

- **≤ 40% building over 5 stories**
  - RiverHouse
  - North of Green Ribbon/15th St

- **≤ 30% building over 5 stories**
  - RiverHouse
  - South of Green Ribbon/15th St
  - PDSP South of 15th Street
2. Transportation

Pentagon City will continue to mature as a transit-oriented district—to become a place where walking, biking, micromobility, and transit are the predominant means of travel.

Throughout the district, new and improved infrastructure as well as County programs and policies will help ensure redevelopment accelerates the multimodal travel patterns in Pentagon City.

- **A Street and Access Network** will provide greater public access and break up the current pattern of superblocks as redevelopment occurs. Existing streets will be improved to provide better transit, walking, and biking facilities and greater safety for all modes.

- **A network of New and Improved Bicycle Facilities** will help ensure that all blocks can be accessed in bike lanes, paths, and facilities separate from motor vehicle traffic.

- **Transportation Demand Management**, including performance monitoring, will help achieve the mode split and trip generation goals our district requires to succeed.

The Pentagon City Metro and bus service on Hayes Street reflect rich and growing transit access. It is among the highest-ridership rail stations in Virginia, and the Hayes Street bus stops collectively serve more passengers per day than many Metro stations.

Building level transportation studies have shown that 79% of trips in Crystal City and Pentagon City are made on by non-single occupancy vehicle modes—continuing to build out an excellent sidewalk and pedestrian realm will continue this trend.
Army Navy Drive will soon undergo a transformation to remove vehicle lanes and add transit-only lanes, a separated bike path, and new street trees to improve the corridor for transit riders, pedestrians, and cyclists.

The 12th Street Transitway project

The plan anticipates growing the use of bikeshare, scooters, and other micromobility options.

Through this plan, Pentagon City can better connect to the regional trail network and transit system—including VRE and the airport.
2.1 Street & Path Network

The proposed street and path network will help ensure that connections are made across parcels, facilitating shared access between parcels and creating an easier to navigate grid.

Policy Approach

- To facilitate convenient mobility throughout the study area and access to destinations on each block, **public access ways should be present at intervals not exceeding 500 feet**. Block lengths under 400 feet are preferred where feasible. Blocks exceeding 500’ length may be acceptable where topography or other factors limit connectivity.

- The **Street and Path Network** diagram on the facing page indicates existing and planned public access ways. The combination of transportation modes on a given access way may vary according to the types of access ways shown. Dotted lines indicate planned access ways; the actual alignment of these can vary (may be straight, or curve to either side) as long as the indicated end point connections are achieved. See 2.2, Bicycle facilities, for locations of priority bike facilities. See pages 46-49 for priority considerations for updates to specific streets and other public access ways, with attention to street section widths.

- Where future public access ways (streets, Green Ribbon, other walks) are shown upon development parcels, **public access easements or land transfers are required as a condition for redevelopment**. These may be new corridors and/or widenings of existing corridors. Corridors may accommodate pedestrian, bike, and/or vehicular modes as appropriate to location. See 1.3, Buildable Site Boundaries, for more detail on access way locations and areas.
New access ways, including pedestrian access ways, created through redevelopment ensure an inter-connected block network.

DISCLAIMER: THIS FRAMEWORK SHOWS DESIRED CONNECTIONS TO BE MADE ACROSS AND BETWEEN SITES AND THE EXISTING BLOCK NETWORK. IT IS NOT MEANT TO SPECIFY A SPECIFIC RIGHT-OF-WAY OR FINAL ALIGNMENT. THE SPECIFIC LOCATION OF CONNECTIONS MAY SHIFT BASED ON NEEDS AND PHASING OF REDEVELOPMENT.
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| **South Joyce Street** | 100’ north of 15th Street **Recommendation:** add 30’ easement along west to accommodate broader sidewalk, grade-separated cycle track. Relocate Joyce to the west south of 15th Street to enable contiguous expansion of Virginia Highlands Park. | **PEDESTRIANS**

Provide safer crosswalks at non-signalized crossing locations. Could include narrower crossing distance through curb extensions, RRFB

Integrate green ribbon with siting and design of new buildings to make walkways comfortable and inviting

**BIKES**

Consider adding protected bike lanes through reallocation of lanes or associated with development at River House. Coordinate with improved bike facilities north of Army-Navy Drive connecting to Columbia Pike

**TRANSIT, CURBS, CARS**

To prevent excessive traffic speed, consider narrowing roadway at spot locations with transit stops/parking pinch points |
| **South Hayes Street** | 200’ existing (County and easements) **Recommendation:** 60’ public easement along west at Green Ribbon, in place of existing service drive | **PEDESTRIANS**

Widen existing 8’ sidewalks to at least 12’ in conjunction with Green Ribbon walk

**BIKES**

Consider separated bicycle facilities

**TRANSIT, CURBS, CARS**

Rethink how lanes are organized, but traditional road diet likely not feasible.

Potential for future metro entrance at 15th Street over long term, but prioritize bus transit facilities for near/mid-term

Manage curb space to prioritize bus transit and efficient stops of coach/tour buses, apartment/hotel shuttles, and paratransit; layover parking elsewhere

Include Shuttlebus Zone for passenger load/unload with off-site “cell phone lot” parking |
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<th>BIKES</th>
<th>TRANSIT, CURBS, CARS</th>
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| South Fern Street | 75’ existing (wider north of 11th Street)  
**Recommendation:** 12’ public easement on west (and/or east at Pen Place) to accommodate grade-separated cycle track, Army-Navy Drive to 18th Street | Some existing deficiencies in pedestrian facilities will be addressed through approved developments and a capital project at 15th Street  
Ensure robust **connections at Green Ribbon crossing** and to public spaces in Met Park, Pen Place, and Pentagon Centre (future) | Enhanced bicycle facilities throughout study area (constraints from Army-Navy Drive to 18th may require allocation of additional right of way). Coordinate with improved bike facilities north of Army-Navy Drive linking to Pentagon and Potomac riverfront |
| South Eads Street | 90’ existing | Many existing deficiencies in pedestrian facilities will be addressed through approved developments and capital projects in the pipeline  
Provide safe crossings at **Green Ribbon** and robust connections to public spaces in Pen Place and Teardrop Park | **Protected bike lanes** throughout study area |
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<tr>
<td>11th Street and other new public access ways</td>
<td>60’ minimum typical</td>
<td>Safe, inviting pedestrian facilities should be provided along all public access ways.</td>
<td>Safe, inviting bike facilities should be provided along all public access ways.</td>
<td>Ultimate mix of transportation modes to be determined by corridor, but a <strong>mix of pedestrian, bike, and vehicular facilities</strong> is encouraged wherever possible. Some public access ways may accommodate motor vehicle travel while others accommodate solely pedestrians, or pedestrians and bikes. Between South Hayes and South Fern Streets, redevelopment of both the Brookfield and CALPERS parcels should each include public passage of both pedestrians and vehicles along the <strong>11th Street corridor</strong>, and in a manner that accommodates a conventional “complete street” upon redevelopment of both parcels. Between South Fern and South Eads Street, public passage of both pedestrians and vehicles along the <strong>11th Street corridor</strong> at the Pen Place parcel should be accommodated.</td>
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| 12th Street| 90’ west of South Fern; 110’ east of South Fern. | **PEDESTRIANS**  
Minimum 10’ clear pedestrian passage along sidewalks  
Provide safe crossings at [Transitway](#) median bus stops and [Green Ribbon](#) and robust connections to public spaces at Brookfield and Pen Place sites  
Encourage allowance and facilities for public use of landscaped areas between existing Costco building and sidewalk.  
**BIKES**  
Enhance bike facility connections across Richmond Highway to Crystal City. | Approved capital project will create bus [Transitway](#) between South Hayes and South Eads, primarily occupying center lanes. Bus stops to be located in median at South Hayes and South Elm Streets  
Review [curbside management](#) at Brookfield and Pen Place parcels as part of proposed redevelopment. |
| 15th Street| 100’ existing                                     | **PEDESTRIANS**  
Many existing deficiencies in pedestrian facilities will be addressed through approved developments and capital projects in the pipeline  
Provide safe crossings at [Green Ribbon](#) and robust connections to public spaces in Virginia Highlands Park, Met Park, and Pentagon Centre (future)  
**BIKES**  
Protected bike lanes throughout study area |
2.2 Bicycle Facilities

Pentagon City was not originally planned for bicycles. Street upgrades have added on-street bicycle facilities to streets including South Hayes and South Joyce. A protected bike facility is planned along Army-Navy Drive.

To make travel by bike an attractive and safe option for more people, all development blocks in the study area should be accessible via protected bike facilities that are separated from motor vehicle traffic.

Policy Approach

- The diagram at right shows planned protected bike facilities as well as potential corridors for new or redesigned bike facilities. More study is required to verify which new corridors and what types of facilities will serve the study area best, but this plan reserves easement area along South Joyce, South Hayes, and South Fern Streets to accommodate the potential facilities shown. Final network design should be coordinated with the Crystal City Bicycle Plan and bike facilities in other areas, to achieve protected bike routes to destinations including Columbia Pike, Long Bridge Park, Mount Vernon Trail, and Four Mile Run.

- These and additional bicycle network improvements should be guided by the goals for reduced level of traffic stress indicated in the diagrams below.

- Due to space limitations, not all parcels can likely be served by protected bike facilities. Thus, final approach to a destination may require a cyclist to ride less than a block on a lightly traveled street or along a sidewalk. Bicycle parking should be strategically located to provide safe access to routes and avoid conflicts with high-levels of pedestrian activity.

- The Green Ribbon (see 3.3.3) is principally a walking path. While it will accommodate slow-moving cycling and may be used for final approach to a destination, it is not intended as a high-speed trail. Bike parking along the path is appropriate at destinations. In some locations, parallel bike facilities alongside the Green Ribbon are indicated to accommodate faster speed bicycle travel.
2.3 Transportation Demand Management (TDM)

Policy Approach

■ **Mode Split Targets.** New development will meet a minimum expected performance standard for mode splits and trip generation: in the near-term, single-occupancy vehicle trips can make up no more than 30% of trips for office and residential uses, 20% of trips for hotel uses, and 5% of trips for pedestrian-oriented retail/commercial uses. These caps reflect recently-approved developments in the area, and may be monitored and adjusted in the future through the MMTA and TDM monitoring process.

■ **Performance Monitoring.** Mode split and trip generation for existing uses and new development will evolve over time—to decrease or hold steady vehicle trips and increase transit, walking, biking, and micromobility trips. Changes to the performance requirement in the future will be calibrated based on the Household Travel Survey, TDM reporting, and other analysis by DES. Annual monitoring may be required at the district level to collect sufficient data to gauge and address performance issues.

■ **Telework support.** While long-term effects of the Covid-19 pandemic are still emerging, rates of telework and/or modified schedules will continue to be an important factor in TDM.

■ **Employer strategies.** Employers will need to work with Arlington Transportation Partners to implement the most effective TDM strategies, including parking cash out programs and shared vehicle parking.

■ **Parking Management and Bike Parking Strategies.** In addition to the investments in the multi-modal network detailed in the plan, future changes to parking requirements and operations may be required to support performance-based TDM. Parking strategies that may be appropriate, upon further study and analysis, include parking maximums, as well as conversion of underutilized parking to other uses. In addition to the current site plan conditions for bicycle parking, facilities should accommodate a wide range of users, including electric and cargo bikes. Covered bicycle parking for visitors is encouraged.

■ **School Opportunities.** Redevelopment of a future elementary school in the 22202 area will include TDM and bike parking in line with County use permit requirements, as well as safe routes for walking and biking to school by students.

**CHANGE FROM PAST POLICY?**
This builds on existing County policy—including TDM monitoring and the success of the County’s multimodal transportation planning—to emphasize performance standards for new development. In order to implement performance-based TDM, additional study and analysis may be warranted.

**30%**
Maximum percentage of vehicle trips (mode share) for new residential and office development
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3. Public Realm

The public realm framework will increase and improve the public spaces, parks, plazas, pathways, casual uses spaces, and natural areas throughout Pentagon City. The Green Ribbon serves as a connective thread, a biophilic experience, and a landmark for Pentagon City in its own right.

Throughout the planning process, Arlington community members stressed the importance of achieving an excellent public realm that fulfills the Pentagon City planning principles to create a cohesive district, welcome everyone to Pentagon City, create places for people and nature, achieve global standards for sustainability, and offer safe walking, biking, micromobility, and transit options so that driving is unnecessary. The public realm is critical to achieving all of these planning principles. The following pages include a number of strategies to increase and improve the public realm throughout Pentagon City, including:

- **Biophilia and Biophilic Design Approaches in the Public Realm** to create more nature-based experiences in Pentagon City for all of who live, work, visit, and share culture here. Greening the boulevards of Pentagon City and improving streetscapes can help ensure biophilia is integral to the daily life and navigation of the district.

- Creating **New Parks and Plazas** so that every person in Pentagon City can access a public space within a two block walk.

- The **Green Ribbon**, a new signature network of biophilic walking paths connecting public spaces, destinations, and transit throughout Pentagon City and greater 22202

This framework identifies opportunity for at least ten acres of new public park and plaza space, and green connections helping people enjoy much more of Arlington’s park system.
This illustration shows conceptual ideas for improvements to the corner of South Hayes Street and 15th Street, including the Green Ribbon, streetscape elements, and a new gateway for Virginia Highlands Park. Specific improvements to Virginia Highlands Park, including design and activities, will be determined as part of a future park master plan process. Improvements to the right-of-way, including intersection improvements, must meet County standards.

DISCLAIMER: THIS RENDERING IS AN ARTISTIC RENDITION OF ONE WAY THE PENTAGON CITY PLAN VISION AND RECOMMENDATIONS FOR THIS ELEMENT CAN BE ACHIEVED, FOR ILLUSTRATIVE PURPOSES ONLY.
3.1 Biophilic Design

Biophilic design is architectural and environmental design that prioritizes human connection with nature. It applies to all scales of design, from a single site to a neighborhood to a region, but is most relevant and transformational in preserving, introducing, or re-introducing nature and natural analogues into higher density settings where nature is often less present.

The goal is to have regular, frequent interactions with nature because it is omnipresent, rather than a destination one occasionally visits to escape places that are devoid of nature.

Biophilic design is related to, but distinct from sustainable and resilient design approaches. Simply put, biophilic design is experiential, primarily focused on human interaction with nature. Sustainable design and resilient design have many overlapping tools and principles, but they tend to focus on quantitative measures of how systems perform and do not have to be experienced to meet those performance criteria.

While each approach to design and sustainable performance is slightly different, they are complementary and are often used together to create a healthy environment for the people, vegetation, and wildlife inhabiting them. Design in Pentagon City may include biophilic, sustainable, and resilient elements based on site conditions and priorities.
As illustrated in these examples provided by Arlington community members, biophilic design approaches can be part of public realm design and infrastructure.
Terrapin Bright Green’s “14 Patterns of Biophilic Design” offers a series of tools for understanding biophilic design opportunities and potential strategies for seizing those opportunities without identifying prescriptive design solutions. The patterns are organized into three categories:

**NATURE IN THE SPACE**

*The direct integration and experience of nature in a space*

- Visual + non-visual connection with nature
- Non-rhythmic stimuli
- Thermal + airflow variability
- Presence of water
- Dynamic + diffuse light
- Connection with natural systems

**NATURAL ANALOGUES**

*Design that indirectly mimics or evokes nature*

- Biomorphic forms + patterns
- Material connection with nature
- Complexity + order

**NATURE OF THE SPACE**

*Spatial configurations that create interest as they are experienced*

- Prospect
- Refuge
- Mystery
- Risk/peril
Countywide Policy
On December 17, 2019, the Arlington County Board adopted the Biophilic City Resolution and in 2020 officially joined the Biophilic Cities Network, a network of cities from around the globe dedicated to improving the connection between residents and urban nature.

Arlington’s Biophilic Cities application listed five indicators for gauging success in reaching biophilic design goals:

1. Expanded **natural elements** within Arlington’s built environment, as well as **conservation of our natural resources**.

2. **Equitable access** to green spaces, parks, and other natural elements

3. Creation of publicly accessible **urban nature projects**

4. **Educational opportunities** for the community, including residents and development stakeholders, about the benefits of biophilic principles to further the presence of nature in our buildings, facilities, homes, and public spaces

5. Expanded **biophilic planning and design principles** throughout existing policies and processes, such as comprehensive plan elements, sector plans, site plans, park master plans, and multimodal transportation plans and projects

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Principles for Pentagon City Public Spaces
- Maximize plantings across public and private properties in areas that are not heavily programmed.
- Prioritize pedestrians and cyclists, and provide generously sized, inviting facilities
- Make public spaces welcoming and engaging from the street
- Encourage casual use spaces for impromptu use and connection with nature
- Create spaces that fit different age groups, needs, and experiences

Layering
The design of the green ribbon, public spaces, and boulevards that make up the public realm framework—as well as private development sites—can employ the biophilic design patterns. The success of biophilic design depends on the integration of patterns in the design of spaces rather than using singular elements. Layering could mean:

- Intentionally creating dynamic experiences that change by time of day or time of year
  *for example*: activation of surrounding uses during the day and quiet in the evening; the color changes of flowers blooming and leaves changing color

- Employing multiple patterns in concert, particularly combining patterns across the three pattern categories
  *for example*: combining dynamic light with biomorphic forms and patterns; combining the presence of water with prospect

- Engaging multiple planes (ground plane, wall, canopy, terrace, rooftop)
  *for example*: ground cover and tree canopy; sidewalk planters and green walls
3.2 Parks and Plazas

New parks and plazas will significantly increase the amount and quality of public space available in the study area. These spaces, located in strategic locations for public access near transit, activity, and along the Green Ribbon, will make Pentagon City a more cohesive neighborhood, connected to the 22202 community, as well as a destination in its own right.

New parks and plazas create additional areas for planting, enhancing biophilic qualities and low-impact stormwater management, as well as casual use spaces.

Policy Approach

- **Locate new public park or plaza spaces** so that everyone in the study area has convenient walking access to one within two blocks, or approximately 850 feet. These spaces should generally be urban in character, with a mix of paved and planted areas and tree canopy designed to support intensive use by diverse users. See the facing page for priority destination park or plaza locations and minimum areas. Most of these locations are on private land, and their creation would be required as a condition for increased development entitlements. Locations and areas are generally flexible in order to benefit from creative input from property owners, designers, and community members, as long as minimum areas are achieved (at least 5 acres new public open space overall) and location is within the black dotted lines. The spaces may be designated as privately-owned public spaces (POPS) or Arlington County property. The design, program, and facilities of public parks and plazas should be consistent with Arlington’s Public Spaces Master Plan.

- **Virginia Highlands Park** is a well-established park amenity that should be expanded and updated. See diagram at right for proposed expansion of Virginia Highlands Park onto a portion of the RiverHouse property, made contiguous through a relocation of South Joyce Street (net park expansion at least 1 acre).

Virginia Highlands Park may also be impacted by potential school development at the Aurora Highlands Community Center site. A forthcoming Virginia Highlands Park master plan process should verify an updated approach to park design, program, and facilities, taking these considerations into account.

- **Grace Hopper Park** should be improved to be more visible, more obviously public, and function better as a destination public space and center of place identity around the intersection of 15th and South Joyce Streets with the addition of a plaza. The diagram at right demonstrates a proposed swap of land area with RiverHouse property and new pavilion building within the park as a means to advance this goal. The pavilion building could contain publicly-accessible amenities, like dining, or community uses like a library.

- **Ensure an adequate management plan and maintenance funding** is in place for all public parks and plazas. Arlington Department of Parks & Recreation, property owners, the National Landing BID, and/or other stakeholder organizations may all have roles to play across the study area’s range of parks and plazas.

- **Improve walking, transit, and biking access** to public spaces in conjunction with 2.1, Street and Path Network, 3.3, The Green Ribbon, and 3.4, Connections: 22202 and beyond. The connection to **Long Bridge Park**, Arlington’s fourth largest park and located about ½ mile walk from the study area, is particularly important.

At least **five new acres of new urban parks and plazas** distributed in Pentagon City. In addition, expansion of Virginia Highlands Park by at least one acre.
PARKS AND PLAZAS

Potential dedication of existing green space coupled with County land on the northern edge of RiverHouse along Army Navy Drive, connecting to Prospect Hill Park.

Additional casual use space located somewhere along the Joyce Street frontage - location is not fixed, but should connect to Green Ribbon network in north of RiverHouse site.

A redesigned Grace Hopper Park could include a building with amenity uses, casual use spaces, and public art commemorating the legacy of Grace Hopper. The relocation of Joyce Street could enable expansion of Virginia Highlands Park. A future Master Plan could identify needed facilities and amenities.

New plaza space provided as part of redevelopment can create a plaza and destination along Hayes Street, particularly when combined with the opportunity for linear park space along the Green Ribbon.

Long-term redevelopment will provide additional public spaces.

DISCLAIMER: THIS FRAMEWORK SHOWS DESIRED NEW PUBLIC SPACES. THE SPECIFIC LOCATION OF CONNECTIONS MAY SHIFT BASED ON NEEDS AND PHASING OF REDEVELOPMENT.
3.3 The Green Ribbon

This new initiative responds to the strong community desire for safe, pleasant, and biophilic ways to walk throughout the broader 22202 area. The Green Ribbon is a signature feature for Pentagon City, and will increase the amount of quality of public space available in the study area. Additionally, the Green Ribbon will:

- Add areas for planting, enhancing biophilic qualities and low-impact stormwater management
- Extend and enhance Pentagon City’s multi-modal network to be consistently safe and inviting for pedestrians and for other modes as appropriate to location. New access ways that fill gaps, and additional intersections that expand choice of route, would significantly improve access

Policy Approach

- Create a connected network of generous, biophilic walking paths that achieve multiple goals:
  - A recreational path network connecting all people in and around Pentagon City with park facilities and other destinations in 22202 and beyond
  - New casual use spaces along the network, in various settings including natural and commercial
  - Increasing tree canopy and permeable, planted ground surface
  - Filling gaps in the study area’s pedestrian network where conventional streets would be difficult or inappropriate
  - Unique sense of place, identity, and community through distinctive design and enthusiastic community use

Three miles of new or improved pedestrian walks. Four acres of new public park space along the Green Ribbon, exclusive of other park and plaza spaces.

- The diagram at right identifies priority Green Ribbon routes. The routes utilize a mix of private land and existing public access ways and parks. Actual route alignment is flexible as long as key intersection points are linked.
- At a typical width of at least 16 feet, the more than three miles of new walks shown represent more than four acres of net new park space exclusive of the parks and plazas they pass through.
- The Green Ribbon includes two areas - along the incline from Grace Hopper Park to Lynn Street, and along the current alignment of Joyce Street, where a parallel trail for bicycles and other micromobility is needed alongside the Green Ribbon to safely accommodate different speeds of travel. In other locations, the Green Ribbon will be designed to discourage higher-speed bicycle travel. Concurrently, improvements to on-street bicycle facilities are essential.
- See appendix for illustrated standards for Green Ribbon components designed to achieve the multiple goals above.
The route of the Green Ribbon through Virginia Highlands Park will be determined through a park master plan process, but connections along 15th Street are prioritized.

A parallel trail is provided alongside the Green Ribbon at the current alignment of Joyce Street and up the hill from Grace Hopper Park to Lynn Street. These segments of the Green Ribbon provide important connectivity and access to surrounding neighborhoods.

The Green Ribbon along Hayes and through the Brookfield site provides a linear park experience, linking larger plaza and casual use spaces. Green ribbon strategies can also be deployed in constrained environments to improve the visibility and experience of walking to Metro from Virginia Highlands Park.

The existing stairs behind the Hume School building could be incorporated into another expansion of the Green Ribbon.

This map shows other potential connections the Green Ribbon could make through the Costco site, to Long Bridge Park, and connecting other public spaces such as the future Tear Drop Park. The future alignment of these sections requires further study.

The Green Ribbon through RiverHouse is dependent on final site design, but should provide a north-south connection from Prospect Hill Park to the southern boundary of the site, access to Virginia Highlands Park, and connect from Lynn Street down to Joyce at a second location near Metro access route.

DISCLAIMER: THIS FRAMEWORK SHOWS DESIRED NEW PUBLIC SPACES. THE SPECIFIC LOCATION OF CONNECTIONS MAY SHIFT BASED ON NEEDS AND PHASING OF REDEVELOPMENT.
3.4 Green Connections: 22202 and Beyond

This new initiative responds to connectivity goals expressed through the Livability 22202 initiative and Biophilic Arlington, and leverages county-scale trail loop opportunities identified in the Public Spaces Master Plan. It will extend the benefits of the Green Ribbon and create a more cohesive, connected district beyond Pentagon City.

Policy Approach

- Extend Pentagon City’s pedestrian, bike and trail network—including Green Ribbons, sidewalks, and bike facilities—beyond the study area to make valuable connections between Pentagon City, greater 22202, the County as a whole, and its region. Within the study area, locate these corridors to facilitate internal and external continuity.

- Implement physical and aesthetic improvements at highway crossings to achieve safe, comfortable routes to the Columbia Pike corridor, Inner Loop, Pentagon Lagoon, Long Bridge Park, Crystal City, and Mount Vernon Trail. Connections south and west through Arlington Ridge and Aurora Highlands will also require special attention to be compatible with neighborhood streets.

- Challenging conditions requiring special design attention include crossings across highway infrastructure to the Columbia Pike corridor, Inner Loop, Pentagon Lagoon, Long Bridge Park, Crystal City, and Mount Vernon Trail. Connections south and west through Arlington Ridge and Aurora Highlands will also require special attention to be compatible with neighborhood streets.

- Design trail connections to be consistent with the Arlington Public Spaces Master Plan.

An extension of the Green Ribbon to Long Bridge Park would greatly improve 22202 access to Arlington’s fourth largest park, and could become a gateway to the Mount Vernon Trail.
Potential connections to trails shown in green, upon the Conceptual Protected Trail Loops map in Arlington’s Public Spaces Master Plan, indicate important opportunities for the Pentagon City study area (blue) to contribute recreational facilities that benefit all Arlingtonians and the region. The potential green connections would not necessarily provide the same level of facilities as Arlington’s highest-level trails shown in the diagram.
4. Site + Building Form

Pentagon City is at a midpoint in its evolution from a landscape of large individual sites with detached buildings to a cohesive network of public streets and public open space lined consistently with active, attractive architecture. The Site + Building Form framework aims to complete this evolution, shaping buildings and landscape that make Pentagon City’s public realm a delightful place for people, and that deliver enduring value to their owners, occupants, and Arlington as a whole.
DISCLAIMER: THIS ILLUSTRATIVE PLAN IS AN ARTISTIC RENDITION OF ONE WAY THE PENTAGON CITY PLAN VISION AND RECOMMENDATIONS FOR THIS ELEMENT CAN BE ACHIEVED, FOR ILLUSTRATIVE PURPOSES ONLY.
4.1 Sustainable Design

Achieving global standards for sustainable, resilient, and biophilic design is one of the planning principles for Pentagon City. All future site plans in Pentagon City will address the goals of the Community Energy Plan. New buildings will maximize energy efficiency, lower carbon impact, and include biophilic design. Development sites will address stormwater, heat island and needed climate adaptation. Innovative strategies specific to the site and program of development are encouraged to continually improve.

Policy Approach

All site plans in Pentagon City must submit a sustainable design narrative as part of their initial submission that addresses the principal sustainability goals and ethos for the project, and how they establish the design vision and guide an integrated design process. This narrative must respond to the goals of the Community Energy Plan.

All site plans in Pentagon City must fulfill the baseline requirements of the most up-to-date Arlington County Green Building Incentive Policy.

- As of a 2020 County Board action, LEED Gold or Earthcraft for multifamily uses is now the minimum level of green building certification required for site plans participating in the Green Building Incentive Program.

- Address specific energy measures including energy and water efficient appliances, electric vehicle charging, renewable energy, ventilation performance, refrigerant leakage, and energy benchmarking.

- Achieve baseline community sustainability priorities including equity, biophilia, light pollution reduction, and bird-friendly materials.

- Meet specified energy optimization criteria to ensure energy efficiency above the LEED baseline.

- Achieve the Energy Star Building Certification (or equivalent) post-occupancy.

Site plans in Pentagon City should utilize the most appropriate strategies for their site, and consider innovative strategies that respond to their unique site opportunities.

- Site plans may opt to use a more stringent building certification such as Passive House, Net Zero Energy or Zero Carbon certifications or pursue strategies from the Extra List.

- Site plans may incorporate other strategies to address embodied carbon in construction materials, such through cross-laminated timber or other emerging building technologies.

- Electric buildings are encouraged as feasible; residential units may utilize electric or induction cooktops to increase indoor air quality and reduce carbon emissions.
Top: The Community Energy Plan is the County’s integrated framework for energy policy and climate action. Redevelopment must further the goals of the Community Energy Plan.

Left: Emerging building techniques like cross-laminated timber can offer new building typologies and sustainability strategies, reducing the embodied carbon of new development. This image shows Carbon12, an 8-story cross-laminated timber project in Portland, OR.
4.2 Building Height

Policy Approach

- Generally within the study area, locate greater building height to the north, including opportunities to the northeast and northwest. No specific zoning limits on height apply, except as noted below adjacent to R2-7 and R-10 zones.

- Varied height encouraged: on a given parcel, target 10-20% height difference between some buildings

- Where a scale transition is needed to a lower density/height area, consider the benefits of a variety of building form options, not just tapered height, such as:
  - Tall but slender buildings facing neighboring area
  - Preserving specific view corridors from public streets/parks
  - Increased tree canopy/plantings, and less building footprint, in transition area

- In the Southern portion of Riverhouse, where new development is adjacent to R2-7 and R-10 zones, height should be limited to:
  - Within 75 feet of R2-7 zone, height limited to 5 stories; form should transition to 3-4 stories where it faces the R2-7 zone
  - In other areas within 150 feet of R2-7 and R-10 zones, height limited to 8 stories; form should transition at least one story down where it faces the adjoining zones
  - In other areas south of 15th Street not addressed above, height may not exceed that of the existing RiverHouse Ashley Building

- Minimize shadow impacts of buildings on priority public spaces, such as by limiting height of buildings immediately south of these spaces. Potential performance targets for priority public spaces:
  - On the summer solstice, at least 50% of the space should have shade for most of the day
  - On the spring and fall equinox, at least half the area should have access to sun at least 75% of the time between 9am-3pm
  - On the winter solstice, at least 25% of the space should have a few hours of sun

- Assess impacts of new structures on wind movement; require mitigation of any strong wind flow in public realm

Intended benefit responding to Guiding Principles

- Locate tall buildings where they will benefit from views to and from the Potomac River, Washington, DC, and adjoining areas

- Locate tall buildings where shadow impacts on public realm and sensitive developed areas are relatively minor

- Vary skyline for interest

- Increase amount and quality of public space available in the study area.
Sites with multiple buildings should have a variety of building heights and forms for visual interest and a variety of views.

Buildings heights of 20 stories or more may be appropriate along 12th Street and to the north (which is to the left of this view).

Buildings close to lower-density zoning districts should transition down in height.

Choose building heights and massing that avoid casting significant shadow on public spaces during cooler times of the year.

New buildings should be placed to help shape public streets, walking corridors, and squares.

The potential new buildings shown in this illustration in the darker brown color are intended to demonstrate possible building forms and layout, but do not represent required building form and layout. Successful site plans may differ from this depiction.
4.3 Building/Public Realm Edge

Policy Approach

■ Locate building facades to form a consistent edge along public streets, walks, and plazas, shaping these as outdoor rooms. Building facades or publicly-accessible open space should be present within a consistent “build-to band” within 8 feet of the public sidewalk passage along at least 55% of the length of each parcel edge along a street. One or more buildings may help form this continuous edge.

■ No setbacks required except to accommodate a public easement, or adjoining a Low or Low-Medium density zoning district

Intended benefit responding to Guiding Principles

■ Enhance pedestrian experience

■ Create a more continuous network of pedestrian-friendly streets and walks

■ Shape streets and public spaces that have distinctive sense of place and, in turn, contribute to identity of Pentagon City and National Landing

\[ a \leq 0.45b \]

\[ a = \text{frontage without building edge} \]

\[ b = \text{overall site frontage} \]

■ Multiple options for placing façade within 8’ build-to-band

■ Occupy at least 55% of site frontage per block

■ Publicly-accessible open space is excluded from overall site frontage
4.4 Walks: Safe, Convenient, Inclusive, Active, Green

Policy Approach

- Maximize presence of **active ground floor uses along primary pedestrian streets and walks.** Require ground floors to be built to accommodate future retail in priority locations. See 4.5, Retail and other Active Edges, for more guidance in coordination with the Arlington County Retail Plan.

- For areas designated “Green” in the Arlington County Retail Plan—free from retail use and design standards—buildings should meet these design standards that aim to build strong indoor-outdoor connection while also respecting privacy needs:
  - Include entrances every 50-75 feet. Where residential uses front the street, individual entrances are encouraged, with stoops and compact front gardens at least 4 feet deep.
  - Approximately 35% of ground level façade area between two and ten feet above grade should consist of transparent glazing.
  - In no cases should a ground floor façade extend more than 20 feet horizontally without transparent glazing.
  - Buildings should be sited to provide approximately 4 to 12 feet of intermittent **transitional space between sidewalk passage corridor and new building facades for at least half of their frontage.** This space can usefully serve dining or other program at active uses, and provide occupiable landscape (gardens, patios, stoops, porches) at passive uses (residential, office, education, institution), adding amenity and flexibility for ground level uses.

3/4-mile of new pedestrian-friendly, mixed-use building frontage along South Joyce, South Hayes, South Fern, 12th, Army-Navy, and the Hayes-Fern Green Ribbon segment

Intended benefit responding to Guiding Principles

- Extend and enhance Pentagon City’s entire pedestrian network to be **safe and inviting** for mobility as well as destination activities.
- Enable long-term **flexibility for a variety of retail, community-serving, and other uses** at ground level of mixed-use buildings.
Examples of pedestrian-friendly non-retail ground floor frontage along streets and pedestrian walks.
4.5 Retail and Active Edges

Policy Approach

- Design and tenant designated ground level building spaces along sidewalks in order to support a pedestrian-friendly urban environment and successful variety of pedestrian-oriented retail and service uses, consistent with the Arlington County Retail Plan. The diagram on the facing page identifies four types of locations with differing requirements, per the color categories in the Retail Plan:

  - **RED**: Highest priority locations for active retail, usually clustered in nodes or corridors. Exterior and interior design standards apply. Limited range of non-retail uses acceptable.

  - **GOLD**: Secondary priority locations for retail or other active uses. Exterior and interior design standards apply. Broader range of non-retail uses acceptable.

  - **BLUE**: Secondary priority locations for retail or other active uses. Exterior (not interior) design standards apply. Broader range of non-retail uses acceptable.

  - **GREEN**: No retail design or tenanting requirement, but frontage may be subject to other design guidelines such as for ground level residential and office use.

Intended benefit responding to Guiding Principles

- **Enhance the pedestrian experience**

- Make a broad range of commercial and community services available to support principal land uses

- Provide appropriate space opportunities for businesses

- Provide Pentagon City the resiliency to accommodate a changing range of retail and service needs and opportunities over time.

CHANGE FROM PAST POLICY?

The diagram at right proposes updates to the current Retail Plan diagram for Pentagon City, including:

- New retail frontage requirements west of Hayes

- Change of some green frontage to red or gold, such as along South Fern Street

- Change of some gold frontage to green, such as along South Hayes Street
FUTURE RETAIL

<table>
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<th>BLUE*</th>
<th>GREEN</th>
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* Other uses as permitted in the Zoning Ordinance may be approved, on a case-by-case basis, by the County Board. ** Other adopted design standards may apply.
4.6 Parking & Servicing

PARKING

Policy Approach

- Recommend **no new structured parking above street level.** Above-grade parking that is terraced into sloped topography, screened from public access ways by occupied uses, and includes useable open space on top may be acceptable. Consider applying a disincentive for above grade parking, such as counting it toward allowed density or requiring additional Transportation Demand Management (TDM) contribution.

- As part of analysis of performance-based TDM, consider requirements for parking maximums, parking cash outs, and other strategies.

Intended benefit responding to Guiding Principles

- **Minimize parking’s physical impact** as a constraint on higher-value land use, barrier to priority mobility corridors, and detriment to quality pedestrian environment

- Encourage new development and tenants to **maximize use of travel modes other than driving**

- **Enhance value and feasibility of new development** by reducing cost of providing parking

SERVICING; PICK-UP & DROP-OFF

- Locate **parcel service access only in areas designated** (see diagram at right) to minimize presence on main pedestrian network. Do not locate drives for pick-up and drop-off of passengers and packages between a building and the sidewalk. Service alleys should include a sidewalk on at least one side.

- Develop curb management plans as needed along new and existing development.

Intended benefit responding to Guiding Principles

- Improve neighborhood **cohesiveness** by preventing gaps in walkability presented by service & vehicle infrastructure

CHANGE FROM PAST POLICY?

Service drives in front of multiple existing commercial and residential parcels diminish quality of walking environment
4.7 Upper Floor Stepbacks & Sculpting

Policy Approach
Encourage stepbacks of upper stories from the street façade and/or other edges:

- Especially at **lower levels** (approx. 2-5 stories above grade) to support:
  - **Direct sun** access to public realm
  - Reinforce **human scale** of street
  - Planted roof surfaces with **vegetation visible** from street level and/or upper floors
  - **Green roofs** or other facilities managing stormwater and preventing solar heat gain
  - Dispersal of downward **windflow** away from sidewalks
  - **Occupiable outdoor space**
  - Space intervals between building towers that preserve **views**

- Stepbacks at **higher levels** are also welcome for useable outdoor space, green roofs, architectural composition, or other purposes

- See also **Site Coverage** section 1.4 for limitations on floor area above 5th floor

Intended benefit responding to Guiding Principles

- **Enhance comfort and safety of pedestrian network** by mitigating wind effects, framing a comfortable street scale for people, reducing solar heat gain

- Add areas for **planting**, enhancing **biophilic qualities** and low-impact **stormwater management**

- Add interest and proportional features to **architectural composition** of tall buildings
Example apportioning of massing among one or more buildings on site.

- Multiple options for allocating volume up to 5 stories and above 5 stories
- Allocation may be distributed among multiple buildings on common site

Built examples of ways to include upper floor stepbacks, including creative use of lower roof surfaces.
4.8 Upper Floor Public Realm Encroachment

In order to add interest and proportional features to architectural composition of tall buildings and enable sustainability strategies that may include shading or other projections along the building face, design guidelines allow for limited encroachment of upper floor building massing or elements into the public realm. These strategies enable designs like those seen at MetPark.

Policy Approach

- Above ground floor, projection of up to two feet is permitted, with a total projecting volume equivalent to half the upper floor façade area extended two feet from façade
- Cornices or canopies with no occupied space above may project up to 2 feet along entire façade, and up 4 feet along half the length of the facade

Example alternative ways to extend upper floor volume over the sidewalk or other public property.
Pentagon City precedent: The Millennium at Met Park.
4.9 Building Composition

HORIZONTAL BUILDING SCALE

Policy Approach

- Limit overall façade length to approximately 250 feet. Introduce prominent vertical composition lines at least every 100 feet.
- On first five stories of residential buildings, include additional vertical composition lines every 15-30 feet

Intended benefit responding to Guiding Principles

- Reflect walkable block scale in buildings
- Maintain variety of view corridors from multiple parcels
- Vary façade composition for interest

STREETWALL DEFINITION

Policy Approach

- Compose facades facing public rights of way to include a “base” of one to five stories, distinct from any upper floor massing. The base may be distinguished by material, changes in plane, differences in extent of transparency, or other compositional approaches. At ground level, include transparency, entrances, and other features as per 3.4.3 and 3.4.4.

Intended benefit responding to Guiding Principles

- Reflect walkable block scale in buildings
- Reinforce a scale of space at street level that is distinct from any massing rising above
Examples of buildings with prominent vertical composition lines that prevent excessive horizontal scale.

Examples of buildings with a base distinct from upper floors.
Appendix
Green Ribbon Design Guidelines

The following pages show a series of elements that can be combined, interpreted, and installed on site to form the Green Ribbon. This kit of elements will help ensure that the Green Ribbon achieves an excellent biophilic experience while enabling a variety of design responses appropriate to the diversity of contexts and locations in Pentagon City. By establishing guidelines that allow for flexibility, it will be easier to build out and implement the Green Ribbon across the district earlier.

The most important design element of the Green Ribbon across all sites is the quality and continuity of the connection—ensuring sightlines, the pathway, and the experience are continuous, easy to navigate, and visible.

Some design options that are possible on private sites are not possible in the public right-of-way in order to meet County safety and maintenance standards.
Pedestrian Path

*Width varies from 8’ to 12’*

- **Stamped Pattern with Natural Analogues**
- **Curvilinear Paving Pattern**
- **Permeable Pavers**
- **Tesselated Pavers as Natural Analogues**
- **Exposed Aggregate Paving**
Planting Zone

*Width varies from 4’ to 10’*

**IN-GROUND PLANTING**

- **Pollinator Lawn**
  - Height: Low
  - Continuous planting zone
  - Variety of native or non-native, locally adapted species

- **Flowering Garden**
  - Height: Medium
  - Variety of heights

- **Shrub Plantings**
  - Height: Tall
  - Variety of heights
Planting Zone

Width varies from 4’ to 10’

RAISED PLANTERS

Moveable Planter

Narrow Planter

Cluster Planter

Wide Planter

Variety of heights

Variety of native or non-native, locally adapted species

Continuous planting zone
Planting Zone

*Width varies from 4’ to 10’*

**CANOPY**

- Irregular spacing, Groupings preferred
- Dynamic & diffuse light

**Tree Canopy**

**Shade Structure**
Planting Zone
*Width varies from 4’ to 10’*

VERTICAL ELEMENTS

- Living Wall
- Mural
- Water Feature
- Architectural Facade / Fence
Planting Zone

*Width varies from 4’ to 10’*

**BRANDING & WAYFINDING**

- Wayfinding Link
- Green Trellis
- Gateway Tower
- Directional Sign
- Vertical Habitat
Pedestrian Zone

*Width varies from 4’ to 10’*

**BRANDING & WAYFINDING**

Paving Inlay (Linear)

Paving Inlay (Medallion)
Planting Zone
*Width varies from 4' to 10'*

**REFUGE**

- Periodic places to sit
- Seating Along Edge of Planting Zone
- Seating Tucked in the Planting Zone
- Seating Within the Planting Zone
Planting Zone

*Width varies from 4’ to 10’*

**FURNISHINGS**

- Made of or reminiscent of natural, regionally sourced materials
- Integrated street furniture with green features

Planter with Seating

Green Platform
**Planting Zone**

*Width varies from 4’ to 10’*

**LIGHTING**

- **Path Lighting**
  - Dappled, warm color

- **Catenary Lighting**

- **Pedestrian Lighting**

- **Canopy Lighting**
Example Illustrative Plan Evolution Over Time
ILLUSTRATIVE PLAN: NEAR-TERM OPPORTUNITY

DISCLAIMER: THIS ILLUSTRATIVE PLAN IS AN ARTISTIC RENDITION OF ONE WAY THE PENTAGON CITY PLAN VISION AND RECOMMENDATIONS FOR THIS ELEMENT CAN BE ACHIEVED, FOR ILLUSTRATIVE PURPOSES ONLY.
ILLUSTRATIVE PLAN: MID-TERM OPPORTUNITY

DISCLAIMER: THIS ILLUSTRATIVE PLAN IS AN ARTISTIC RENDITION OF ONE WAY THE PENTAGON CITY PLAN VISION AND RECOMMENDATIONS FOR THIS ELEMENT CAN BE ACHIEVED, FOR ILLUSTRATIVE PURPOSES ONLY.
ILLUSTRATIVE PLAN: LONG-TERM OPPORTUNITY

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