North Potomac Yard
Small Area Plan

Creating a Complete Sustainable Community
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Master Plan Overview

Forthcoming.
1 Vision and Guiding Principles
Vision and Guiding Principles

The North Potomac Yard Small Area Plan is intended to guide public and private investment and development decisions in the northern portion of Potomac Yard (Landbay F). The Plan focuses on the creation of dynamic urban forms, a complementary mix of land uses, and community serving amenities, and provides a range of housing opportunities. The Plan is a framework to create one of the most sustainable series of neighborhoods within the region, known for its outstanding Four Mile Run waterfront, parks, public transportation, innovative architecture, environmentally sustainable design and practices, and celebration of Alexandria’s rich history and culture.

Vision Statement
The Plan envisions North Potomac Yard as an environmentally and economically sustainable and diverse 21st Century urban, transit-oriented, mixed-use community that is compatible with adjacent neighborhoods. The Plan seeks to create a regional destination with diverse built and natural spaces where people want to spend time in a wide variety of pursuits.

“A hundred years after we are gone and forgotten, those who never heard of us will be living with the results of our actions.”

- Oliver Wendell Holmes
Figure 1. Framework Plan
Guiding Principles – North Potomac Yard

- Create North Potomac Yard as a model of environmental sustainability for its site planning, infrastructure, and buildings.
- Create an economically sustainable development.
- Promote excellence in design with a new standard in architecture, urban design, and materials that creates a compelling and lasting identity.
- Create a vibrant and diverse mixed-use community that provides options for living, working, shopping, recreation, culture, and civic uses for a wide range of incomes and ages.
- Pursue a comprehensive multi-modal approach to transportation based on a highly walkable urban environment, minimal automobile impact, and maximum use of existing and new Metro stations.
- Create landscaped streets and a network of usable open spaces and parks with a strong connection to Four Mile Run and the Potomac.
- Provide connections and transitions appropriate to and protective of the character of surrounding neighborhoods.

Creating a Complete, Sustainable Community

This Plan will guide future growth and redevelopment by taking advantage of the Yard’s strengths: planned economic diversity, history, a central location in the region, dedicated high-capacity transitway, and proximity to a future Metrorail station and the Ronald Reagan Washington National Airport.

The Vision Statement and Plan Principles emphasize the importance of creating a sustainable community. The fundamental goal of the Plan is for North Potomac Yard to achieve progressive and innovative strategies for sustainability in all aspects of development. “Sustainability” refers to the long-term environmental, economic, and social health of a community, one in which the needs of this generation are met without compromising the ability of future generations to meet their needs. In recent years, the City has embraced sustainability as a core value through the adoption of numerous policies and regulations. Together, these policies and regulations will provide a roadmap to move Alexandria toward becoming a more sustainable City. North Potomac Yard is envisioned to be a model of sustainability for the City and the region.
The three primary elements of sustainability integrated throughout the Plan consist of the following:

1. **Environmental Sustainability**
   Redevelopment is based on establishing long-term environmental goals such as: carbon neutrality; but also short and mid-term goals such as the incorporation of environmentally responsible building and site development practices; aggressive strategies for the reduction of energy and water use, the production of renewable energy onsite, stormwater reduction, and water reuse; and the restoration of and continued health of the ecosystem and watershed. These issues are discussed in more detail in Chapter 2: Sustainability, Chapter 6: Transportation and Chapter 7: Infrastructure.

2. **Economic Sustainability**
   The Plan enables North Potomac Yard to be poised for future growth as a long-term economic development area for the City. This growth, which is good for the City and the region requires the provision of a future Metrorail station. The Plan requires additional office development in order to increase the real estate tax base and the maximization of density (particularly commercial density) around the Metrorail station. A goal of the Plan is attracting businesses, jobs, visitors, and tourists. These issues are discussed in more detail in Chapter 4: Land Use.

3. **Social Sustainability**
   Consistent with the City goal of providing diverse, and inclusive affordable housing opportunities, the Plan provides for a mix of uses and housing opportunities to serve a variety of age groups, interests, and income levels. These issues are discussed in more detail in Chapter 4: Land Use and Chapter 5: Community Facilities.
Sustainability
Sustainability

The following are several of the primary strategies to be implemented to ensure that the development of the plan area enhances the natural environment and quality of life:

- **Carbon Neutrality by 2030:** New development through innovative and progressive design and technology shall strive to achieve carbon neutrality by 2030.

- **Green roofs:** New development will be required to provide green roofs. Green roofs provide amenity space for building users, reduce heat (by adding thermal mass and thermal resistance value), reduce cooling (evaporative cooling) loads on buildings, reduce the urban heat island effect, increase the life span of the roof, reduce stormwater runoff, filter pollutants and CO2 out of the air, filter pollutants and heavy metals out of rainwater, and increase wildlife habitats in urban areas.

- **Mixed-use development:** Provide a balance of office, residential, and retail to maximize walkability and transit use.

- **Native plants:** The use of native plant species and water-efficient landscaping limits the need of fertilization and conserves water.

- **Open space network:** An interconnected park and greenway system will provide residents, employees, and visitors access to local and regional active and passive recreation amenities.

- **Quality built form:** Quality built form will encourage reuse rather than replacement and account for life cycle analysis.

- **Stormwater and habitat:** The stormwater is required to be integrated as part of the street and open space design to improve the site’s hydrology to reduce runoff, improve water quality, and provide residents and visitors opportunities to participate in the natural processes of their environment.

- **Water conservation:** Rainwater collection systems, natural irrigation, greywater recycling, and green roofs are required to help conserve energy and limit potable water usage.

The intent of the Plan is that sustainability measures will be integrated throughout the plan area in a comprehensive and coordinated manner, rather than applied merely to individual buildings. The Plan recommends the submission of a Sustainability Plan as part of the submission of the first building and all subsequent buildings. The Plan will identify strategies to implement the phased recommendations on a plan-area wide basis. The Plan recommends long-term progressive goals in successive phase, with the ultimate goal of

“**My interest is in the future, because I am going to spend the rest of my life there.**”

- Charles Kettering
carbon neutrality for the entire plan area. The Plan will be required to be updated for each phase. The phasing anticipates a 20 to 30 year build-out of the plan area, and the evolution of sustainability requirements and technology during that period.

**Sustainable Building and Site Recommendations**

**Phase I**

2.1 Achieve a minimum of LEED Silver or comparable.
2.2 Require plan-area wide sustainability through LEED-ND or comparable.
2.3 Integrate the use of on-site, non-polluting, renewable technologies for self-supply energy when feasible. Examples include solar, geothermal, wind, and biomass (biogas) systems.
2.4 Explore the possibility of community gardens so that residents and visitors could have access to edible and non-edible plantings. The community gardens also offer a unique educational opportunity.
2.5 Decrease potable water use using ultra or low flow plumbing fixtures and reuse of captured rainwater.
2.6 Require the submission of a Sustainability Plan prior to the approval of the first DSUP that demonstrates the compliance with Phase I and anticipated goals and targets to achieve subsequent phases. The Plan will be updated/amended with each building and/or block to demonstrate compliance with each applicable phase.
2.7 Explore the use of district energy system(s) that embrace clean, renewable technologies.

**Phase II**

2.8 Achieve LEED Gold or comparable, or the City's green building standards and requirements, whichever is greater.
2.9 Require plan-area wide sustainability through LEED-ND or comparable.

**Phase III - Establish Carbon Neutrality as a Goal by 2030**

2.10 North Potomac Yard should strive to achieve Carbon Neutrality by 2030
Urban Design—Plan Framework
Urban Design – Plan Framework

A. Urban Design Framework
The urban design framework requires an interconnected series of streets, blocks, parks and a mix of uses intended to establish urban neighborhoods with destination retail uses and civic activity that embrace public parks and the public realm. The Metrorail station serves as a focal design element for the configuration of the streets for the neighborhood surrounding the station. The Plan also requires the creation of a new park system adjacent to Four Mile Run. The urban design elements of the Plan will be augmented by the accompanying North Potomac Yard Urban Design Standards and Guidelines (Design Guidelines). The Design Guidelines specify site, building improvements, and require design excellence for the site.

“If buildings are beautiful, higher density compounds that beauty. Conversely, if buildings are ugly, then higher density compounds that ugliness.”

- Vince Graham
Figure 2. Framework Streets and Required Blocks

Note that the names given to neighborhoods, parks, and streets throughout this document are for reference purposes only, and subject to additional approval processes.
B. Framework Streets and Street Hierarchy
The required location of streets are depicted in the Framework Plan (Figure 2). The street grid provides the basic form and structure of the plan area, and reflects the role of the streets as one of the primary organizing elements for each neighborhood. The street grid and configuration is based on Alexandria’s historic pattern of pedestrian-scale blocks, with deliberate variations provided at Metro Square and Crescent Gateway to reinforce a sense of place and create a unique identity. The Framework Streets will connect to existing streets within the rest of Potomac Yard and Potomac Yard Arlington, and connect or align with neighborhoods to the west.

A street hierarchy based on function identifies prominent streets and streets for parking and service access (Figure 3). The streets vary in width depending on their function, hierarchy and scale of adjoining buildings. The required width of the streets and sidewalks capture the characteristics of great urban streets. All streets are designed to favor the pedestrian and calm vehicular speed. The required street cross-sections are depicted in the accompanying Design Guidelines.

C. Creation of Three Distinct Urban Neighborhoods
A defining element of the City is its distinct neighborhoods, such as Old Town, Del Ray, Northeast, Lynhaven, Rosemont and Parker-Gray. The City also includes numerous emerging or transitioning neighborhoods such as Carlyle, Eisenhower East, and Landmark/Van Dorn. The differences in identity, character and scale of the various neighborhoods compliment each other and contribute to the richness of the urban experience of the City. Consistent with the City’s urban tradition of a series of interconnected, distinctive neighborhoods, the Plan proposes three unique and identifiable neighborhoods:

- Metro Square Neighborhood
- Market Neighborhood
- Crescent Gateway Neighborhood
The Metro Square Neighborhood

This neighborhood is the transit hub of North Potomac Yard, where the Metrorail station, dedicated high-capacity transitway, and local and circulator bus services converge. Two important public spaces define the character of the neighborhood, including the square park at the center of the neighborhood, and an internal pedestrian street. The neighborhood is characterized by a diverse mix of uses, but will be predominantly office, with ground floor retail. In addition, uses such as entertainment and/or live performance arts are required. An entertainment district provides a unique identity for this neighborhood and differentiates this new town center from others in the region. The entertainment and theater uses could utilize the office parking during the evening hours, and add evening activity within the neighborhood. Locating office in this neighborhood will also maximize Metrorail ridership, and enhance the City’s ability to attract office uses for Landbays G and H.
The Market Neighborhood
This neighborhood is the heart of the plan area, where retail and restaurants will create an exciting regional destination. This is the neighborhood where both small and possibly large format retailers should be located (see Analysis of Market Conditions in Appendix 2). This neighborhood will provide the greatest mix of uses, offering a range of housing choices to residents and office tenants above the ground floor retail uses.

Crescent Gateway Neighborhood
Located at the northern portion of the site at the gateway to the City, this neighborhood will be primarily residential with a hotel and limited amounts of ground floor retail. The neighborhood will be defined by its Crescent Park and will take advantage of the adjacent Four Mile Run and park. The Crescent Park creates a residential address for the adjoining larger scale residential buildings. Buildings in this neighborhood are situated to enjoy views of the Potomac River and the Washington, D.C. skyline. A signature element of the neighborhood will be the curved building facades. Taller buildings are located within the central portion of the neighborhood and step down in height to the George Washington Memorial Parkway and Route 1. This neighborhood is also a possible location for a school.

D. Gateways and Vistas
Similar to Old Town, the east-west streets visually terminate into the Potomac River or a linear park (except within the Metro Square Neighborhood) affording water and open space views. There are opportunities for buildings and spaces to reinforce visually prominent locations along Route 1, Potomac Avenue and the George Washington Memorial Parkway. The scale, character, elements and orientation of new buildings are required to highlight the designated gateways.
and vistas. Signature facades and gateway elements draw attention to specific points of interest and mark the location of entries and places for each of the neighborhoods.

E. Urban and Building Form

The urban form is based on the best of Alexandria’s design elements such as pedestrian scale at the street level while creating distinctive urban buildings and forms. The buildings are intended to be contemporary, exhibit design excellence, and reinforce the public realm and character of each neighborhood. The higher density, mixed-use buildings in some of the neighborhoods will strengthen the street edge and accommodate retail and restaurants as well as reinforce a sense of place, urban life and vitality for Alexandria.

The basic bulk and form of buildings will be governed by block-specific heights established in the Development Summary (Table 3) and the Building Heights (Figure 14) with additional requirements within the accompanying Design Guidelines. To ensure that an appropriate scale of buildings is achieved, a maximum height is assigned to each block. The maximum permitted heights are established to provide a variety of heights with appropriate transitions to existing neighborhoods, and to minimize impacts on the George Washington Memorial Parkway. These height limits, combined with the block requirements, provide the basic controls for the form and bulk of the buildings. In addition to maximum building heights, the Plan recommends minimum building heights to maintain appropriate density near the Metrorail station and appropriate urban form. Collectively, the buildings will create a street wall from which the streets and open spaces are defined and framed. Urban and building form elements such as stepbacks, variation in building form, and building separation are addressed in the Design Guidelines.

F. Public Art and History

Public art and historical interpretation help define a community, create a sense of place, celebrate a site’s unique history, reinforce a design theme, serve as an economic catalyst, engage and inspire the public, and add beauty to a space that will be enjoyed for generations to come. Consideration should be given to the integration of public art and historical references, interpretation and educational opportunities, into all aspects of the public and private realm. The public art element of the North Potomac Yard Small Area Plan will need to be consistent with the forthcoming citywide proposed public art funding policy, and will require the developer’s financial participation.
Figure 5. Gateways and Vistas
Urban Design Recommendations

Framework Streets and Blocks
3.1 Require the Framework Streets to be implemented as part of any redevelopment.
3.2 Require the street hierarchy of streets to define space and differentiate the character of spaces and neighborhoods.
3.3 Require street and sidewalk cross-sections for each street to emphasize the pedestrian in the public realm.
3.4 Allow for internal pedestrian connections and alleys within the blocks.
3.5 Improve and enhance the Route 1 frontage.

Creation Of Three Distinct Urban Neighborhoods
3.6 The open space depicted in the Framework Plan is required within each neighborhood as a defining element of each neighborhood.
3.7 Create three distinctive and unique neighborhoods. Use history as inspiration for the design of the open space, public realm, and buildings.
3.8 Encourage a mix of innovative building typologies with each neighborhood.
3.9 Provide cultural and civic uses to reinforce the individual neighborhoods.

Gateways and Vistas
3.10 Require variety in building massing, design, and height to create an attractive skyline – building tops, especially from the George Washington Memorial Parkway.
3.11 Provide distinctive elements and architecture at the designated gateway locations.

Urban and Building Form
3.12 Balance the aesthetic and functional criteria of sustainable design.
3.13 Create an urban building scale and relationship between buildings, streets and open spaces that ensures urban relationships of the buildings and sidewalk and maximizes walkability and the use of transit.
3.14 Require any building with government tenants or tenants who require additional security measures to meet the Vision, applicable provisions of the Master Plan and the accompanying Design Guidelines.
3.15 Establish standards for retail uses, signage and larger format retail uses.
3.16 Ensure that the ceiling heights, depths for various uses are flexible to encourage a broad range of uses within the residential and commercial buildings, particularly the ground floor.
3.17 Adopt the accompanying Design Guidelines to implement the Vision and Plan.
3.18 Use heights and variety in building materials, orientation, and dimensions to create an interesting skyline for taller buildings.
3.19 Require maximum and minimum building heights.

Public Art and History
3.20 Develop a Public History Interpretive Plan for the plan area and explore relationships between public art and public history.
3.21 Integrate public art and the history of the site into new development and the public realm.
Land Use
Land Use

A. Balancing Land Uses
The allocation and mix of land uses are based on the proximity and relationship to transit, planned surrounding uses, open space, the required street network, circulation, and market conditions. A balanced mix of uses provides benefits including:

- Improving safety and walkability by sustaining street life through daytime and evening hours.
- Maximizing use of transportation infrastructure by distributing peak hour traffic over longer periods, maximizing internal trips, and providing two-way transit use.
- Decreasing parking demand, and creating opportunities for shared parking.
- Supporting retail by establishing a diverse customer base in close proximity, including area workers, residents and shoppers.

The Plan creates a balance among office, residential and retail uses. Office uses have economic benefits for the City, and provide retail patrons for restaurants and shops primarily during the day. Residential uses provide activity primarily in the mornings, evening and weekends. Office, residential, and retail uses require connectivity and critical mass to ensure their success. The challenge is to create a fine-grained mix of uses and still meet the market and relationship demands generally required for each of the uses.

The intent of the Plan is to provide a balanced mix of residential and office uses. An appropriate balance of residential and office use does not mean an equal amount of square footage for each use. The City’s current occupancy for office is 3.5 employees/1,000 square feet, while multi-family residential use is 1.8 residents/unit. Therefore, to provide a balance of residents and employees, there needs to be approximately two to three times more residential square footage. While the Plan anticipates a greater percentage of residential use than office, the adjoining planned land uses of Landbay G and Landbay H are predominantly office.

The intent of the Plan is to provide a balanced mix of residential and office uses. The Plan requires specific uses for certain blocks. For example, the blocks adjacent to the Metrorail station are required to be office. However, the Plan allows flexibility for the upper floors of the majority of the blocks to be residential or office use (see Figure 7). The amount of permitted development within each block is conceptual. The final maximum permitted square feet for each block will be determined as part of the development review process.

No urban area will prosper unless it attracts those who can choose to live wherever they wish.

- Jonathon Barnett
Figure 6. Uses for F, G, and H
Figure 7. Land Uses
B. Neighborhood Land Use Strategy

The land use strategy capitalizes on the planned $190 to $230 million (2012 dollars) investment in a new Metrorail station and the additional investment in the planned dedicated high-capacity transit corridor, local bus, and shuttle service which will be provided for the plan area. All of the proposed blocks are located within a ½ mile radius of the Metrorail station and approximately half of the blocks are located within a ¼ mile. The close proximity of these blocks to a Metrorail station provides a unique opportunity to integrate land use with transit to create a transit-oriented development for Potomac Yard.

Figure 8. Metrorail Station ¼ and ½ Mile Radii

1/4 & 1/2 Mile Northern Option Metro Walksheds
While the overall goal of the Plan is to maximize density – particularly commercial density near the Metrorail station and transit, the land uses are also based on creating community and reinforcing the character of each of the neighborhoods.

In the Metro Square Neighborhood, the majority of the ground floor uses for Main Line Boulevard and the street connections to the Metrorail station and transit stops are required to provide ground floor retail uses (Figure 7). Office uses are required for the upper levels of the blocks closer to the Metrorail station, both to maximize transit use and to benefit from the existing office planned in the adjoining Landbays G and H. The 680,000 up to 2.38 million square feet of office use within this neighborhood, in conjunction with the planned 1.5 million square feet of office within Landbay G and Landbay H will result in a total of 2.2 to 3.8 million square feet of office within this neighborhood and the adjacent landbays.

Table 1. Metrorail Station ¼ and ½ Mile Densities

<table>
<thead>
<tr>
<th>Northern Options (B2/B3) (N&amp; S)</th>
<th>Landbay F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inside 1/4</td>
</tr>
<tr>
<td>Residential/Office</td>
<td>3,298,208</td>
</tr>
<tr>
<td>Retail</td>
<td>604,879</td>
</tr>
<tr>
<td>Hotel</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>3,903,086</td>
</tr>
</tbody>
</table>

While the overall goal of the Plan is to maximize density – particularly commercial density near the Metrorail station and transit, the land uses are also based on creating community and reinforcing the character of each of the neighborhoods.

In the Metro Square Neighborhood, the majority of the ground floor uses for Main Line Boulevard and the street connections to the Metrorail station and transit stops are required to provide ground floor retail uses (Figure 7). Office uses are required for the upper levels of the blocks closer to the Metrorail station, both to maximize transit use and to benefit from the existing office planned in the adjoining Landbays G and H. The 680,000 up to 2.38 million square feet of office use within this neighborhood, in conjunction with the planned 1.5 million square feet of office within Landbay G and Landbay H will result in a total of 2.2 to 3.8 million square feet of office within this neighborhood and the adjacent landbays.
The Market Neighborhood will have the largest amount of retail of all the neighborhoods and a similar density as the Metro Square Neighborhood. The Plan recommends flexibility for the upper floors for either office or residential uses.

The Crescent Gateway Neighborhood requires predominantly residential uses and a hotel, limited ground floor retail, and possible community-civic uses.

C. Land Use – Future Zoning (Coordinated Development District)

The Land Use Plan (Figure 7) depicts the principal land uses for each block. The proposed land uses are predicated on amending the Potomac Yard Small Area Plan. In addition, the Plan recommends modification of the boundaries of the existing Coordinated Development District (CDD #10) and the creation of a new Coordinated Development District (CDD). The rezoning will be contingent on compliance with the vision, intent and recommendations of the Plan and Design Guidelines (including a firm plan agreed to by the property owners and the City in regard to financing the proposed Metrorail station) and approval of a subsequent rezoning, CDD Concept Plan and applicable approvals by the City. Figure 9 depicts the location of the existing CDD zoning in the planning area, and Figure 10 depicts the creation of the new CDD zone for the plan area.

D. Retail Uses

The required retail uses are an integral part of the development and land uses for the plan area. The retail study commissioned to assess the potential for retail within Potomac Yard found that given the scale, amount of development and a future Metrorail station, that the market can support the proposed 845,000 square feet of retail use (see Analysis of Market Conditions in Appendix 2). It is the intent of the Plan that the retail uses provide for the basic needs of residents and employees while also attracting visitors from throughout the region. The anticipated retail uses could include large and small tenants which serve the regional market, neighborhood-serving retail, and restaurants and “lifestyle” entertainment retail (see Analysis of Market Conditions in Appendix 2: Context for Plan). Large format retail tenants who serve the regional market should be concentrated in the Market Neighborhood, convenience retail to serve transit users should be concentrated in the Metro Square Neighborhood, and restaurants and entertainment uses could be located in both neighborhoods. Neighborhood-serving retail should be interspersed throughout the plan area to serve residents and employees.

It is important that retail and retail anchors be concentrated and located in strategic locations and connect to the planned retail for Landbay G. The Plan requires that a future comprehensive retail strategy which addresses ownership and maintenance issues. The retail strategy will be required prior to the submission of a development special use permit for the first building and/or block to ensure that the retail properties are owned and managed in a comprehensive manner for the entire plan area. The Design Guidelines have more specific standards for the design of the retail uses, storefronts and signage.

The locations depicted as Required Retail (Figure 12) will be required to provide ground floor retail as part of the development of each of the blocks. See Table 3 for the amount of required retail per block. The locations depicted as Preferred Retail are anticipated to be retail, but the final ground floor use will be determined as part of the development review process. However, even where retail uses are preferred, the height and depth of the ground floor space needs to be designed to not preclude future retail uses.
E. Adjacent Redevelopment Sites

Although not specifically a part of the plan area, there are several possible large redevelopment sites in close proximity to North Potomac Yard. Development and future planning of these sites should be mutually beneficial for the adjacent Route 1 corridor and Potomac Yard.

As North Potomac Yard redevelops, and the new Metrorail station and dedicated high-capacity transitway are constructed and implemented, it is possible that the several large redevelopment sites on the west side of Route 1 could redevelop including those currently occupied by the Alexandria Toyota dealership, Hertz, and the Oakville Industrial Park. This Plan does not recommend land use or zoning changes for these properties. However, future planning, rezoning, and development at these opportunity sites will need to enhance connections with the plan area both physically and through programming of land uses and public amenities so that these individual parcels are integrated into Potomac Yard. The Plan recognizes that the value of these properties will be positively impacted by the significant infrastructure and other public amenities constructed at Potomac Yard and recommends that, when these properties redevelop, that they be required to participate in the financing of these and other improvements as may be determined by a future planning process.

F. Building Height

The height for each neighborhood is based on the following:

- Define open space, streets and the public realm.
- Maximize density in proximity to the Metrorail station.
- Smaller scale buildings on Route 1 to transition to the lower scale established neighborhoods of Lynhaven and Del Ray to the west.
- Taller buildings in the central portion of the site to provide transitions to the existing neighborhoods to the west and the George Washington Memorial Parkway to the east.
- Taller signature buildings at the central portion of the site to denote the symbolic center of the plan area and at the visual terminus of Main Line Boulevard.
- Using taller and shorter heights to demarcate the required gateways.
- A variety of heights within each block and for individual buildings.
- Avoid uniformity and monotony.

Adjacent to the Metrorail station, the Federal Aviation Administration (FAA) flight path limits the building heights to approximately 100 feet. Despite the limitation, the majority of the density in the plan area is located within a ¼ mile of the Metrorail station. A recommendation of the Plan is that the City work with the FAA to explore the possibility of eliminating or revising the flight path height restrictions to permit additional height and density near the proposed Metrorail station.
The heights range from 30 feet to 250 feet for several taller signature buildings. In addition to maximum heights, the Plan is also recommendation minimum heights to ensure an appropriate urban scale and density near the proposed transit. Figure 14 identifies the maximum heights for the plan area.

G. Parking Strategy
Location of Parking
A goal of the City is that to the extent possible all parking should be located below-grade. Below-grade parking enables uses and people (rather than cars) to be located at the street. Below-grade parking generally reduces the scale of buildings and results in a more urban building form. In addition, when there are height limits, above grade parking generally reduces both density and open space, which is inconsistent with the vision and intent of the Plan.

Each building and block within the plan area is required to provide a minimum of one level of underground parking. All of the parking for Block 2, Block 5 and Block 21 is required to be located below grade regardless of the use to enable the internal ground level open space and pedestrian connections planned for these blocks (Figure 16). On-street parking is generally required for all of the streets, excluding the park frontages.
Figure 15. Minimum Building Heights

* See section 6 of the Design Standards and Guidelines for Minimum Height
Above-grade structured parking may be located within the central portion of the block at grade, provided each level of the entire perimeter of each street and/or park frontage is devoted to active uses (Figure 17). If above-trade structured parking is provided above the ground floor uses, the parking will be required to be screened with active uses for the entire length of each street and park frontage (see Design Guidelines for additional parking and screening requirements).

Figure 16. Below-Grade Parking

Figure 17. Above-Grade Structured Parking
Parking Ratios and Shared Parking

The amount of parking required is intended to meet the economic and programmatic demands of new development, consistent with a well-planned transit-oriented development. To discourage single occupancy vehicle (SOV) travel, a maximum parking ratio is required for each land use. If the developer desires to provide parking below the maximum, this request will be reviewed during the development review process. No minimum parking requirements are recommended in the Plan. The parking maximums have several advantages that include:

- Encouraging commuters to make transportation choices other than private autos, decreasing vehicle miles traveled, and reducing auto congestion and air pollution; and
- Maximizing the use of developable land and ensuring that the urban form remains compact.

Table 2 compares the required parking by the City’s Zoning Ordinance and the parking maximums recommended by this Plan.

### Table 2: Existing Parking Space Minimums and Proposed Maximums

<table>
<thead>
<tr>
<th>USE</th>
<th>EXISTING ZONING ORDINANCE MINIMUMS</th>
<th>PROPOSED MAXIMUMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civic/Community Facilities</td>
<td>5.0/1,000 sq. ft. (community buildings, museums, libraries, or similar)</td>
<td>Exempt</td>
</tr>
<tr>
<td></td>
<td>1.0 space/5 seats (church)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.0 space/25 seats (elementary school)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.0 spaces/classroom (day nursery-childcare)</td>
<td></td>
</tr>
<tr>
<td>Hotel (per room)</td>
<td>1.0 space/2 rooms + 1.0 space/15 employees</td>
<td>1.0/1,000 sq. ft.</td>
</tr>
<tr>
<td>Office</td>
<td>1.7/1,000 sq. ft.</td>
<td>1.21/1,000 sq. ft.</td>
</tr>
<tr>
<td>Residential</td>
<td>1.3 spaces/unit (1 BR)</td>
<td>1.0 spaces/unit*</td>
</tr>
<tr>
<td></td>
<td>1.75 spaces/unit (2 BR)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2 spaces/unit (3+ BR)</td>
<td></td>
</tr>
<tr>
<td>Restaurant</td>
<td>1.0 space per 4 seats</td>
<td>3.5/1,000 sq. ft.</td>
</tr>
<tr>
<td>Retail/Grocery</td>
<td>4.35/1,000 sq. ft.</td>
<td>3.5/1,000 sq. ft.</td>
</tr>
<tr>
<td>Theatre</td>
<td>1.0 space/4 seats</td>
<td>Shared with office</td>
</tr>
</tbody>
</table>

*Note: Visitor parking may be required by the City as part of the development review process.*
Table 2 depicts the maximum parking for each use. Shared parking will be required as part of the development of each building and block. Therefore, the amount of parking for each of the mixed-use blocks and buildings will likely be lower than the parking maximums depicted above. The amount, location, distribution and management of shared parking will be determined as part of the development review process. For additional information on parking, see *Chapter 6: Transportation*. A number of factors contribute to the success of shared parking, including:

- A mixture of uses that would lend itself to multiple stops within the same vehicular trip;
- Variations in the timing of peak parking demand for different uses;
- Alternate modes of transportation available; and
- Good pedestrian connections, amenities and appropriate scale to encourage walking.

**H. Open Space**

The Plan recommends a comprehensive network of parks and public spaces that serve to define the neighborhoods in which they are located, with connections to local and regional open space systems and trails. The parks will be a combination of active and passive spaces and will integrate historical interpretive elements, public art, and improve the City's urban forest. A minimum of 15% of the entire plan area is required to be provided as ground level open space, with an additional 25% open space required to be provided at either ground level or on roof-tops. Blocks 2, 5 and 20 within the plan area will be required to provide ground level open space due to the central ground level spaces within the blocks.

**Four Mile Run**

The plan area is bordered on the north by Landbay E (Four Mile Run Park) and Four Mile Run, a heavily urbanized flood control channel that is planned for restoration. The *Four Mile Run Restoration Master Plan* was adopted to achieve and be a model of urban ecological restoration. Through the sensitive and sustainable integration of natural areas with active urban nodes, the Four Mile Run Master Plan proposes that the corridor be a place along which the communities of Arlington and Alexandria can gather, recreate and celebrate a...
shared waterfront legacy. The Four Mile Run Plan identifies Potomac Yard as “a vibrant urban node that is home to thousands of new residents and workers while offering terrific shopping. On nice days, it’s great to relax on the terraced banks that lead down to the water, on benches along the stream or in the elevated park.”

This Plan assists in the implementation of the Four Mile Run Master Plan by requiring Crescent Park and improvements next to Four Mile Run, which are intended to provide wide range of opportunities, both active and passive, and include opportunities for a gathering and event space. See Figure 18 for conceptual rendering of Four Mile Run along North Potomac Yard. Amenities should be provided on both sides of Four Mile Run and on the existing approximately 1-acre pedestrian bridge, which will connect to Crescent Park and Landbay K beyond, providing a series of spaces for a variety of interests which celebrate the connection to the water and natural environment.

*Figure 19. Landbay K*

**Landbay K (Potomac Yard Park)**

The Plan requires the extension of the currently approved Landbay K to provide an open space connection and off-street trail from Four Mile Run to Braddock Road. The proposed (3-4 acres) and approved (24 acres) parks will result in an approximately 27.5-acre park for the City. See Figure 19 for rendering of area along approved Landbay K. The park should be designed as a regional amenity for users of all ages and abilities, and will provide active and passive recreational amenities for future residents and visitors. The park will be designed to incorporate interpretive elements of the multi-century transportation history of this corridor.

The continuation of Landbay K into the plan area enables integration of the park with the remainder of the Potomac Yard development. The current Landbay K plan includes a 10-foot section of land between North Potomac Yard and the active rail corridor. The extension of Landbay K along the eastern edge of North Potomac Yard will provide the opportunity to create a meaningful connection between the existing Landbay K, Crescent Park, Four Mile Run, and the George Washington Parkway. This plan recommends that the Landbay K extend to Four Mile Run along the eastern edge of Landbay F, and that the extension be wide enough to provide substantial trail amenities, plantings, and a vegetative buffer along the rail corridor consistent with the already planned portion of Landbay K.

**Metro Square**

Metro Square is proposed as an urban square of approximately 0.75 acres at a transit hub which includes the Potomac Yard Metrorail station across the street,
The plaza is required to be surrounded by public streets and framed by the surrounding buildings with retail at the ground floor. Located at the intersection of Evans Lane, Water Street and Potomac Avenue, Metro Square will be the focal element of this neighborhood where office workers, theater-goers, shoppers, commuters and residents can gather. The square is envisioned to include a mix of landscaping and hardscape (pervious where appropriate), providing a range of experiences to accommodate active social gathering. Amenities in the park may include benches, movable chairs, high-quality temporary retail carts, public art, historic interpretation, and water features. The site should be designed to accommodate programming and events that serve its diverse users. In support of the principle of collocation, future development should consider utilizing the space below the park for uses supportive of the character of the neighborhood, such as a theatre.

The Plan provides three buildings adjacent to the Metrorail station. The area to the south of the proposed buildings is not part of the plan area, but is part of the approved Landbay K (Potomac Yard Park). While there is a potential for an additional building at this location, this plan does not recommend a building because of the impact on planned open space. Further analysis of a building to the south of the plan area would need to occur as part of a subsequent planning process.

**Internal Pedestrian Street**

At the southwest corner of Metro Square, a meandering pedestrian street is required which could consist of a central hardscaped open space area that could be lined with restaurants, outdoor dining, music venues, and theatre uses. This space is envisioned to be finished primarily hardscape in character with amenities that celebrate culture, art and creative expression, and promote local artists. Stone Street in New York City has a similar character (Figure 21). This space provides a “break” in the standard street grid, while still maintaining north and south connections to the street grid.

**Market Green**

The Market Green is a linear open space forming the spine of the Market Neighborhood. The green is proposed to occupy approximately 1.0 acres at the center of Reed Avenue, within two elements separated by Main Line Boulevard. The Market Green will be framed at the ground level by active, retail uses, and nearby dedicated transit, and local bus service. The plaza is required to be surrounded by public streets and framed by the surrounding buildings with retail at the ground floor. Located at the intersection of Evans Lane, Water Street and Potomac Avenue, Metro Square will be the focal element of this neighborhood where office workers, theater-goers, shoppers, commuters and residents can gather. The square is envisioned to include a mix of landscaping and hardscape (pervious where appropriate), providing a range of experiences to accommodate active social gathering. Amenities in the park may include benches, movable chairs, high-quality temporary retail carts, public art, historic interpretation, and water features. The site should be designed to accommodate programming and events that serve its diverse users. In support of the principle of collocation, future development should consider utilizing the space below the park for uses supportive of the character of the neighborhood, such as a theatre.

![Figure 20. Bryant Park, New York, New York](image1)

![Figure 21. Stone Street, New York, New York](image2)

![Figure 22. Mizner Park, Boca Raton, Florida](image3)
buildings that along portions of the park will rise up to 250 feet, the tallest and most prominent buildings in all of Potomac Yard. The design of the Green should reinforce this prominent location, and is envisioned to accommodate passive uses including pedestrian pathways, large open green spaces, plantings, and trees. Mizner Park in Boca Raton, Florida has a similar character (Figure 22). Uses and activities in the Green may include special events, such as fairs, live music, markets, and other similar events, which may on occasion also utilize the adjacent streets. For this purpose, the street surfacing material surrounding the Green should be of a distinct character and material from the other streets to enhance the pedestrian experience. The linear configuration of the Green is consistent with the finger parks established in the southern landbays of Potomac Yard.

Crescent Park
Located at the intersection of the existing Landbay K trail and Four Mile Park (Landbay E) is Crescent Park. This curved open space creates an important connection between these two regional parks linking the associated trail networks with the pedestrian bridge and Arlington. This intentional break in the street grid also provides a meaningful terminus for Water Street. The park is required to be a minimum of 3 acres, and its orientation and crescent shape are strategically configured to serve several functions, particularly to maximize access and vistas, including views of the Nation's Capitol. The park also serves as a buffer between the proposed buildings and the George Washington Memorial Parkway. The park is bordered on its curved edge by a street, and defined by signature buildings that follow the curved, crescent shape of the park. The amenities for the park include a large gathering and event space, pedestrian pathways, large open green spaces, significant landscaping, and a stormwater water amenity and a possible civic use.

In order to realize the vision of these open spaces, and to reinforce them as a coordinated system of spaces, this Plan requires a comprehensive open space plan, that includes rooftop open space, with the specific requirements of the Plan to be provided as part of the CDD approval process.
**Roof-top Open Space**

Suggested roof-top amenities could include active courts and turf areas, dog runs and playgrounds, as well as passive recreational spaces to meet the needs of the anticipated population. Public access of certain blocks should be considered to enhance recreational opportunities and views within the plan area and increase community interaction. These roof-top open spaces are anticipated to incorporate substantial sustainable components, while maintaining access and uses for residents and building users.

**I. Housing**

This Plan envisions a community designed to accommodate a wide range of incomes, ages, and household types and sizes. By planning for a variety of housing types and products, which offer a spectrum of affordability options, it is likely that those who work, shop, and recreate in Potomac Yard will also be able to choose to live there.

To achieve this, the Plan specifically recommends that developers be encouraged to:

- Provide affordable and workforce housing units, both rental and for sale, throughout the plan area
- Offer a range of housing types to accommodate different household sizes and compositions, including studio, one, two and three bedroom units
- Incorporate green and sustainable designs and materials to enhance the interior living environment and to yield energy savings for residents
- Integrate universal design and or accessibility features to accommodate multiple life stages and abilities
- Explore opportunities for public, private and non profit collaborations to maximize the use of land and to leverage all available resources for the development of affordable and workforce housing, including public housing.

The range of household income intended to be served by public housing units is up to 50% of the area median income, but generally 20-30% AMI, affordable housing (up to 60% AMI) and workforce (typically 80 to 100% AMI). In addition to on-site housing units, when appropriate, developers will also be encouraged to fulfill a voluntary contribution to the City’s affordable housing trust fund, consistent with guidelines in effect at the time development approvals are sought.
Housing Case Study:
The Station at Potomac Yard
Alexandria, Virginia

The Station is an award-winning, creative approach to meeting multiple community needs in a dense, high-cost exurb of Washington, DC and provides an easily replicated model of sustainable design and construction. The project’s innovative mixed-use design combines a fire station, 64 units of affordable and workforce rental housing and retail space, maximizing the use of land in a built environment.

The project was made possible through a successful public-private collaboration among the City of Alexandria, Potomac Yard Development, LLC (PYD), a joint venture of national homebuilders, Pulte and Centex Corporations, and the Alexandria Housing Development Corporation (AHDC), a local non-profit housing developer. Conceived when it was realized that PYD’s proposed urban design (which had already been vetted and approved through a public process) might hinder optimal emergency services response times within the Yard. PYD offered to provide land and money for a new fire station, and the City utilized air rights above the fire station to produce critically needed affordable housing (between 2000 and 2007, more than 10,000 of the City’s existing privately owned “market affordable” rental housing stock was lost to rent increases or redevelopment). Through AHDC, significant federal, state and local funds were leveraged to finance four stories of affordable housing. During the public outreach process the community expressed a strong desire to include workforce housing. PYD’s voluntary contribution of $7.5 million to the City’s housing reserve fund helped underwrite the costs to develop 20 workforce units. Consistent with Alexandria’s Eco-City charter, The Station is “green”, with the residential component built to Earthcraft program standards (yielding energy savings for residents) and the first floor fire station LEED Silver-certified.

1.1 acres
Total development cost $34 million
Project features:
- Four bay state of the art fire station
- 64 apartments (including one, two and three bedroom units, with three fully accessible units; 44 are “affordable” to households at or below 60% of the area
- median income (AMI); 20 have rents affordable at the workforce level at or below 80% AMI
- Retail space (planned to be neighborhood serving)
- Two levels of underground parking (142 spaces)

In addition to PYD’s donation of land and its contributions to the fire station ($6.6 M) and to the housing facility ($7.5 M); other funding includes $8.6 M in low income housing tax credit equity and $8.35 M in loans from the Virginia Housing Development Authority (VHDA), with the balance coming as loans and grants from the City.
### J. Development Summary – Table 3

<table>
<thead>
<tr>
<th>Block</th>
<th>Land Use</th>
<th>Maximum Permitted Development (Square Feet)</th>
<th>Permitted Retail (Square Feet)</th>
<th>Required Retail (Square Feet)</th>
<th>Permitted Hotel (Square Feet)</th>
<th>Minimum Permitted Height (Feet)</th>
<th>Maximum Permitted Height (Feet)</th>
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<tbody>
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<td>Block 1</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
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<td>180</td>
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<td>Block 3</td>
<td>Hotel</td>
<td>255,000</td>
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<td>Residential</td>
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<td>See note 2</td>
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<td>Residential/Office</td>
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<td>South: 90 North: See note 2</td>
<td>110-180</td>
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<tr>
<td>Block 11</td>
<td>Residential/Office</td>
<td>750,000</td>
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<td>See note 2</td>
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<td>40,000</td>
<td>40,000</td>
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<td>West: 20-50 East: See note 2</td>
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<tr>
<td>Block 13</td>
<td>Market Green Park</td>
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<td>Office</td>
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<td>5,000</td>
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<tr>
<td>Block 15</td>
<td>Office</td>
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<tr>
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<td>Residential/Office</td>
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</tbody>
</table>

1 The final land use for these blocks is permitted to be residential and/or office use. The final use of the blocks shall be determined as part of the development review process.
2 Minimum height is subject to Chapter 6 of the North Potomac Yard Design Standards and Guidelines.
3 See Figure 14 for the specific height requirements for each block.
4 See Figure 15 for minimum height requirements for each block.
5 The provisions of Section 7-700 of the zoning ordinance that allow a density bonus for the provision of low and moderate income housing does not apply to North Potomac Yard (Landbay F).
6 The amount of permitted development within each block is conceptual. The final maximum permitted square feet will be determined as part of the development review process.
Land Use Recommendations

Land Use - Zoning
4.1 Amend the CDD zoning or establish a new CDD zone to implement the vision and recommendations of the Plan.
4.2 Establish minimum and maximum densities for each block.
4.3 Permit the flexibility of office and/or residential uses for Blocks 7-12, 17, and 22-23.

Metro Square
4.4 Require predominantly office uses and ground floor retail uses for the Metro Square neighborhood.
4.5 Require the provision of theater/live performance space.

Market Neighborhood
4.6 Require retail for the majority of ground floor area within this neighborhood.
4.7 Allow flexibility to have office or residential uses on upper floors within these blocks of this neighborhood.

Crescent Gateway Neighborhood
4.8 Require predominantly residential uses in this neighborhood.

Retail Uses
4.9 Require retail in locations depicted in this Plan.
4.10 Develop design standards and guidelines for large-format retailers.
4.11 For preferred retail locations, the ground floor height and depth needs to be designed to not preclude retail uses.
4.12 Encourage opportunities for live-work and comparable ground floor uses outside the required retail locations.
4.13 Require neighborhood-serving retail uses, including the potential provision of a grocery store within the Metro Square or Market neighborhoods.
4.14 Explore the possibility of allowing for street vendors.
4.15 Require the submission of a comprehensive retail marketing strategy.
4.16 Require district-wide management of retail (ie business improvement district, or other similar entity)

Building Height
4.17 Transition building height and scale to the existing residential neighborhoods to the west and the George Washington Memorial Parkway to the west.
4.18 Differentiate the height of the gateway elements of the neighborhood by established taller or shorter heights for these elements.

Land Use Recommendations (continued)
4.19 Explore the possibility of eliminating or revising the Federal Aviation Administration (FAA) flight path restrictions.

4.20 Establish maximum and minimum heights for each block.

4.21 Require the top floor of the building on Block 2 to provide public access to surrounding views, including of the Potomac River and Washington, DC skyline.

**Parking**

4.21 Establish parking maximums.

4.22 Provide unbundled residential parking.

4.23 Establish parking ratios that reflect the transit-oriented nature of the development.

**Open Space**

4.27 Require the submission of a comprehensive Open Space Plan to identify the programming within each park-public open space.

4.28 The parks-open space required within the Framework Plan which consists of the following need to be implemented with the development of each neighborhood.

- Expanded open space at Four Mile Run to provide a meaningful connection to the City’s open space network, consistent with the Four Mile Run Master Plan; (Crescent Park)

- A finger park in the retail district (Market Green);

- A rectangular plaza/urban square at the Metrorail station (Metro Square); and

- An extension of Landbay-K to provide usable open space along the rail corridor and make a connection to Four Mile Run.

4.29 Require that Landbay K and Crescent Park be dedicated to the City as public parks, with an agreement for private maintenance in perpetuity. The remainder of the parks (Metro Square, Market Green) and the central open spaces are required to be privately-owned and privately maintained but accessible to the public through the provision of a perpetual public access easement.

4.30 A minimum of 15% of the plan area (excluding Landbay K) is required to be provided as ground level open space, with an additional 25% to be provided at either ground level or on rooftops. Blocks 2, 5 and 20 within the plan area will be required to provide ground level open space due to the central ground level spaces within the blocks.

4.31 An internal open space-courtyard is required for Block 21 and encouraged within the remainder of the blocks.

4.32 Explore the possibility of collocating uses in open space, for example, entertainment, civic and cultural uses, historical interpretation, public art, and stormwater management.

4.33 Provide off-street shared-use paths in the open space at Four Mile Run and through Landbay K (Potomac Yard Park).

4.34 Provide public and private dog parks. Explore the possibility of locating these facilities, on roof tops.

**Land Use Recommendations (continued)**
4.35 The developer shall assist in the provision of playing fields off-site.

4.36 Employ sound urban forestry principles and practices to improve the City’s tree canopy.

4.37 Explore the possibility of including interim active recreational fields as development is phased.

**Housing**

4.38 Provide affordable and workforce housing units, both rental and for sale, throughout North Potomac Yard.

4.39 Offer a range of housing types to accommodate different household sizes and compositions, including studio, one, two and three bedroom units.

4.40 Incorporate green and sustainable designs and materials to enhance the interior living environment and to yield energy savings for residents.

4.41 Integrate universal design and or accessibility features to accommodate multiple life stages and abilities.

4.42 Explore opportunities for public, private and non profit collaborations to maximize the use of land and to leverage all available resources for the development of affordable and workforce housing, including public housing.
Community Facilities
Community Facilities

The Plan recognizes that appropriate physical spaces and structures are required to support the creation of a successful urban community is one that provides amenities and services for all of its residents. The new facilities should be designed and constructed to meet the needs of the population today and tomorrow. Uses such as a school, child care center, a recreation and community center, flexible exhibition and theatre/performance space, a library or neighborhood reading room are potential community facilities. The Plan recognizes that appropriate physical spaces and structures are required to support the creation of a community. A successful urban community is one that provides amenities and services for all of its residents.

A. Projected Demographics
The demographics give a snapshot of the size and character of the anticipated North Potomac Yard population. It is this population and age that will ultimately determine the future needed facilities and programs. Between 350 and 500 school-aged children are projected to reside in North Potomac Yard, weighted more heavily in favor of younger children of elementary school age. Young workers, singles and non-traditional families are projected to comprise a substantial portion of North Potomac Yard's future. Finally, given the proposed affordable housing, persons with a range of incomes will be part of the community.

B. Collocation, Flexibility, and Incentives
Community facilities should be collocated to ensure cost and operational efficiency, and for the added convenience for users. The term collocation refers to the vertical integration of multiple uses within the same building. The future community facilities should expand on the award-winning Potomac Yard Fire Station which combines a fire station and 64 affordable housing units. In order to ensure that the needs of Potomac Yard residents, workers, and visitors can be accommodated throughout the day, and into the future, the Plan recommends that community facilities be designed as flexible multi-purpose spaces. Multi-purpose spaces are differentiated from collocated uses in that multiple uses can use the same space. In order to encourage provision of these facilities, whether public or private, the Plan recommends that the floor area for community facilities not count against the maximum amount of permitted development, and be exempt from parking requirements. While the community facilities will not be deducted from the permitted development, the Plan is requiring that each use require the approval of a development special use permit.

C. Community Facilities
Emergency Services
The new police facility on Wheeler Avenue will adequately serve the proposed development. No new fire facility is needed as the area is located only a few blocks from The Station and the mutual aid fire service provided throughout the City.
**Schools**

Of critical importance is the need for additional school capacity. Based on 2008-2009 generation rates, between 211 and 258 elementary, 70 and 117 middle, and 70 and 117 high school students will be generated by the residential uses. The remainder of Potomac Yard (including Landbays G, H, I, J, and L) is expected to generate between 123 and 140 elementary, 67 and 93 middle, and 53 and 70 high school students.

If elementary school generation rates continue to increase, the City will not have additional capacity to support elementary school students generated by the new development in the plan area. Furthermore, if middle and high school generation rates continue to increase, in the long-run, the City will face additional capacity challenges in the middle and high schools. The most critical need is the provision of additional system capacity at the elementary school level. The Plan addresses three possible options to accommodate the needs of a possible school:

1) Construct a school in North Potomac Yard. In light of the fact that North Potomac Yard will be urban in nature, a school, if constructed in this location, must be in an urban form, such as the Tenderloin Community School in San Francisco, California, which is an elementary school but also a family resource center, health center, counseling rooms, an adult education center, and a preschool child development center. The building includes underground garage parking and rooftop recreation and community gardens.

2) Construct a new school at an off-site location.

3) Expand or reconstruct an existing school, for example, Cora Kelly STEM School, to accommodate additional students.

The final approach to address the impacts on the school system will need to be addressed prior to the approval of a rezoning for the plan area.

**Daycare – Childcare Facilities**

Because of the proposed amount of residential and office uses, there will be a considerable need for child care facilities. Child care facilities need to be provided in the plan area that can serve residents and employees. Childcare may be located with an office building and could be included as part of the school or adjacent to the proposed school. Considering the school will not likely be built in the early phases of the development, child care facilities will need to be provided in the early phases and integrated within larger office or residential buildings.

**Other Potential Community Facilities**

In addition to a potential school and day care, there are numerous other facilities that may be needed as part of the development of North Potomac Yard. Some of the potential uses are listed below.

*Community Arts, Exhibition and/or Performance Space.* This space could contain an art gallery and could be utilized for community gatherings as well as destination events such as festivals, concerts, and other arts performances, and would be particularly appropriate in the Metro Neighborhood.
Environmental Education Center. A privately funded environmental education center could be located within Four Mile Run, which was a component of the Four Mile Run Master Plan. A focus on sustainability and environmental stewardship is not only a key component of the overall plan, but it will also serve, as other models such as the Living Classroom have shown, as another feature supporting Potomac Yard’s multi-faceted program of community building.

Neighborhood Reading Room/Library. A neighborhood reading room or library could be provided, and should be centrally located within the Yard.

Potomac Yard Community Center. Potomac Yard could have a space that can serve as a community function space. The facility could be linked to the school, which has often historically been the case for such facilities in urban communities, and should provide a community room that would be accessible to all residents of the surrounding neighborhood blocks.

Recycling Center/Program. An important and significant component of the Sustainability Program will be incentives for and facilities to accommodate a complete recycling program.

Transit Center. A transit center to support the multi-modality of the development could be collocated with an office building in close proximity to the metro station or transit.

Youth Center. Appropriate locations could be near the school, sports fields or other educational settings and with easy access for all residents. Uses in this space could include after school, educational and social activities for young residents of and could be collocated with a school.

It is certain that not all of these community facilities should be placed within the plan area, or even Potomac Yard. However, potential sites and buildings for locating these community facilities will need to be identified and where the facilities could be developed as part of larger residential or office building projects. If any of these uses, or a combination of all, were developed in this area, they could serve as a major catalyst for both affordable and market rate family housing and redevelopment. The development of daycare and possibly a public school in this area would also serve commercial office development, especially for employees with children.

D. Implementation of the Community Facilities
The Plan is recommending that adequate provision to accommodate an on- or off-site urban school be required as part of the redevelopment and zoning for the property. The remainder of the community facilities will be determined and specified prior to submission of a Development Special Use Permit.
Community Facilities Recommendations

School
6.1 Adequate provision to accommodate an on- or off-site urban school, collocated with a child care facility, shall be addressed before the rezoning of the property.

Child Care
6.2 Require the provision of daycare facilities as part of the community facilities or mixed-use buildings.

Collocation, Flexibility and Development Incentive
6.3 To the greatest extent feasible, community facilities shall be collocated, and be designed to provide for flexible use of interior spaces.

Zoning
6.4 Community facilities, including those identified as part of the Plan and other similar community-service uses, should not be deducted from the maximum permitted development to incentive community facilities.

Implementation
6.5 The community facilities other than a school and daycare are required to be prepared as part of a comprehensive community facilities proposal for the site prior to submission of a Development Special Use Permit. The community facilities proposal shall also include flexibility to accommodate future community facilities.

6.6 Floor area for community facilities shall not count against the maximum allowable development, and parking shall be exempt.
Transportation
Integral to achieving the Plan’s sustainability goals is integrating transit-oriented development with multi-modal transportation options. The transportation strategy has been designed to facilitate a significant mode-shift – from private autos to alternative, more environmentally sustainable means of transportation, consistent with the Transportation Master Plan. The transportation network will include a Metrorail station, dedicated high-capacity transit corridor, buses, shuttles, car sharing, and bicycle facilities. In addition, an aggressive Transportation Demand Management (TDM) program will be required and parking will be managed, shared, priced, and designed to reduce car trips. The Plan is designed to allow employees and residents access to essential services within a five minute walk, and pathways and streetscapes are designed to accommodate easy access to transit.

A significant portion of the roadway system is already established with limited opportunity to build additional east-west streets. The geography that gives Potomac Yard its special character—its location between the Potomac River, the George Washington Memorial Parkway and the adjoining established neighborhoods also constrains access.

Recommendations in this chapter include strategies to manage transportation demand, expand the street grid and connectivity, provide additional transit capacity, incorporate an expansive bicycle and pedestrian network and create a culture of people first in a complete green streets context.

### A. Transportation Network

In the preparation of the transportation evaluation, a set of parameters were developed relating to development density, the future transportation network, travel mode choice (mode split), a 2030 buildout year and general future traffic growth (background traffic). Each of these is briefly described below:

- **Future Metrorail Station:** A new Metrorail station is required in this Plan to support the proposed density and accommodate new person trips.

- **Crystal City/Potomac Yard (CCPY) Transitway:** High-capacity transit service will be provided in dedicated lanes on Route 1 and Potomac Avenue. It will intersect with the Metro service to create a high-performance transit hub for Potomac Yard.

- **US Route 1:** US Route 1 will be widened to accommodate any dedicated high-capacity transitway for the length of Route 1 to Arlington County. Route 1 will not be widened to accommodate additional vehicle trips.
• **Potomac Avenue:** This new major north-south route will connect US 1 on the south with Crystal Drive on the north and will provide additional north/south capacity for local and non-local trips.

• **Internal Street Network:** The Plan requires a fine-grained, interconnected network of streets with connectivity to the surrounding neighborhoods.

• **New Landbay K bicycle/pedestrian connection:** This off-street trail connection will tie Potomac Yard directly to Four Mile Run through a linear park connecting Braddock Road and Four Mile Run, enhancing its access to the major regional trail network that currently serves recreational users as well as commuters.

**B. Transportation Analysis**

A transportation study was conducted to determine the impact of the proposed development at Potomac Yard. The study found that current vehicular traffic conditions along US Route 1 and at most intersections adjacent to Potomac Yard are acceptable; however, some delays occur during the peak period. With the increment of background traffic growth, traffic from approved (currently unbuilt) developments, and the completion of Potomac Yard, traffic will increase on roadways and at intersections.

Table 4. PM Trip generation

<table>
<thead>
<tr>
<th>Year</th>
<th>Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 Existing</td>
<td>1700</td>
</tr>
<tr>
<td>2030 No Build</td>
<td>8000</td>
</tr>
<tr>
<td>2030 North Potomac Yard</td>
<td>10200</td>
</tr>
</tbody>
</table>

The evaluation assumes a 2030 buildout year and that through traffic on Route 1 will grow by approximately 10 percent. This growth is intended to reflect likely increases in traffic attributable to general city growth, including that already planned for without a Metrorail station in Landbays G, H, I and J, and currently unknown development in Fairfax and Arlington Counties. Over time, the vehicular transportation network will steadily approach capacity and traffic delays will increase on major roadways such as Route 1. Regardless of whether or at what density Potomac Yard is redeveloped, Route 1 will reach capacity.
The significant investments in the multimodal transportation network already planned and recommended in the Plan will create substantial capacity to move people and accommodate increases in travel demand associated with continued development in Alexandria as well as in Potomac Yard specifically.

C. Mode Share

To represent the anticipated trip-making patterns associated with the redevelopment of Potomac Yard, assumptions were developed to assign trips to transit, pedestrian, bicycle, and auto modes. The assumptions were based on local, regional, and national experience and evidence for similar scale redevelopment projects in like contexts. Specifically, the recent Metrorail ridership study was consulted in addition to data from the Crystal City, Braddock Road, and King Street Metro stations and US Census, Journey to Work data. It is widely recognized that urban, mixed-use developments with accessible transit will result in lower automobile trip generation. When the mode choice assumptions detailed in Table 6 are applied to the proposed mix of uses in North Potomac Yard, the resulting mode share is 47% of the trips being made by automobiles, 37% of the trips being made by transit, and 16% of the trips being made by bike or on foot (Table 6). The mode share assumes buildout of the proposed mix of uses, accessibility to multiple modes of transportation, including Metrorail and dedicated high-capacity transitway, enhanced street connectivity, and bike and pedestrian facilities.

Table 5. Travel Speed and Time on Route 1 Corridor

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Southbound</th>
<th>Northbound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Speed (mph)</td>
<td>Travel Time (min)</td>
</tr>
<tr>
<td>Existing</td>
<td>20.9</td>
<td>5.0</td>
</tr>
<tr>
<td>Future Conditions without Development</td>
<td>13.1</td>
<td>8.0</td>
</tr>
<tr>
<td>Future Conditions with Development</td>
<td>16.6</td>
<td>7.0</td>
</tr>
</tbody>
</table>

* Future conditions assume the construction of the transitway on US 1, Diamond Road, and Potomac Avenue
**Under Future Conditions with Development, US 1 signals are timed with lead-lag left turns and coordinated with 140-second cycle length. Potomac Avenue is timed with coordinated, 90-second cycle length signals.

Source: Kimley-Horn and Associates, Inc.
Table 6

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Transit (Metrorail)</th>
<th>Transit (Metrobus, DASH, and CCPY)</th>
<th>Pedestrian/ Bicycle (non-auto)</th>
<th>Auto</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Office:</strong> adjacent to a transit station</td>
<td>35%</td>
<td>11%</td>
<td>6%</td>
<td>48%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Office:</strong> within ¼ mile of a transit station</td>
<td>21%</td>
<td>9%</td>
<td>6%</td>
<td>64%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Residential:</strong> adjacent to a transit station</td>
<td>54%</td>
<td>1%</td>
<td>16%</td>
<td>29%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Residential:</strong> within ¼ mile of a transit station</td>
<td>48%</td>
<td>1%</td>
<td>15%</td>
<td>36%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Residential:</strong> ¼ to ½ mile of a transit station</td>
<td>31%</td>
<td>5%</td>
<td>10%</td>
<td>54%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Hotel</strong></td>
<td>27%</td>
<td>4%</td>
<td>31%</td>
<td>38%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Entertainment</strong> (theater)</td>
<td>26%</td>
<td>6%</td>
<td>11%</td>
<td>57%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Retail:</strong> all, excluding large format</td>
<td>29%</td>
<td>8%</td>
<td>27%</td>
<td>36%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Retail:</strong> large format</td>
<td>9%</td>
<td>5%</td>
<td>14%</td>
<td>73%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**D. Streets and Connectivity**

The Plan and the transportation analysis show Reed Avenue connecting across Route 1 and serving as an additional east-west connection. This connection is required to accommodate the additional traffic from the development. Since there is limited east-west connectivity, some intersections along Route 1 are at capacity and improvements will be required to support the proposed level of development. Additional street connections will help disperse traffic and alleviate overburdened intersections. Prior to the approval of a rezoning to increase density for the plan area, the provision and timing for a possible street connecting Route 1 to Commonwealth Avenue, or comparable street, circulation, and/or transit improvements, will be required. New east-west connections should continue to be explored as part of development and planning for properties to the west of Route 1. In addition to the new east-west street connection to Commonwealth Avenue, additional right-of-way to provide turn lanes and enhanced pedestrian accommodations will be necessary at E. Glebe Road at Route 1. With this connection, the intersection of Commonwealth and Reed Avenues will need to be signalized and studied to improve pedestrian movements. For a discussion of neighborhood impacts and other recommendations to address these issues, see Chapter 8: Existing Neighborhoods.
All streets in the plan area are required to be public and dedicated to the City. The streetscape and public right-of-way must play an important role in managing stormwater while visually reinforcing the environmental sustainability principles of the Plan. Low-impact design techniques that reduce runoff and provide water quality treatment are required to be incorporated as part of the street design. These techniques could include, but are not limited to pervious surfaces for parking spaces and sidewalks, curbside bioretention areas and large, interconnected tree wells irrigated with harvested rainwater.

**E. Transit**

One of the most important features of the plan area is its commitment to transit-oriented development. As such, the City is committed to providing levels of transit service which can help the Yard achieve a minimum 50% transit mode split throughout its phases of development. This involves a range of transit options which will provide transit services which are consistent with the amount and type of development being placed in the Yard in future years.

New transit infrastructure including a new Metrorail station, dedicated high-capacity transitway and expanded local bus service, is required by the Plan to support the proposed density and accommodate new trips. These transit facilities and the Metrorail station in particular, allow for a higher transit and non-SOV mode share and a high level of development density. Without the new transit infrastructure traffic congestion will overwhelm the street network capacity and the transportation network will fail.

**Metrorail Station**

During the North Potomac Yard planning process, the Metrorail Station Feasibility Work Group was established to examine the technical and financial feasibility of a potential new Metrorail station at Potomac Yard. The Work Group analyzed eight potential locations, and considered factors relating to the technical feasibility, including issues such as land ownership, environmental conditions, the location of the CSX railroad tracks, access and impacts to adjacent properties, and on-line versus off-line construction. The group determined that three of the eight original station location alternatives were technically feasible, and would proceed to the Environmental Analysis phase of the feasibility process: A, B2 and B3 (see Figure 24). The Northern Metrorail station locations, as depicted and discussed in the Potomac Yard Metrorail Station Concept Development Study, best achieve the intent and vision of this Plan. With regard to the financial feasibility, it was determined that a new station (B2 or B3) would cost between $190 and $230 million in 2012 depending on the alternative (see Analysis of Station Location Alternatives in Appendix 2).

*Figure 24. Metrorail Station Location Alternatives*
Table 7: Metrorail Station Alternatives Cost Estimates

<table>
<thead>
<tr>
<th>Alternative/Option</th>
<th>Escalated Cost at 3.5% per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>$170</td>
</tr>
<tr>
<td>High</td>
<td>$220</td>
</tr>
<tr>
<td>E2</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>$100</td>
</tr>
<tr>
<td>High</td>
<td>$240</td>
</tr>
<tr>
<td>E3</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>$180</td>
</tr>
<tr>
<td>High</td>
<td>$230</td>
</tr>
</tbody>
</table>

Note: Station costs include two mezzanines and a pedestrian access ramp to Potomac Greens.

The implementation of the Metrorail station will require coordination with WMATA, the National Park Service (NPS), Federal highway and transit agencies, CSX and the landowners in all of Potomac Yard. Issues to be resolved include impacts on the NPS scenic easements, delineation and mitigation of possible wetlands, financing and phasing. The developer will be required to contribute substantially to the financing of the construction of the station (see Chapter 9: Implementation).

**Dedicated High-Capacity Transitway**

Alexandria and Arlington County embarked on a multi-year program to conduct an Alternatives Analysis, an Implementation Plan, and an environmental document for a high-capacity transit to serve the Yard. The study found that a high-capacity transit system, operating in an exclusive right-of-way, could carry 36,500 people each day. Thus a joint Alexandria-Arlington transitway was planned and approved prior to the North Potomac Yard planning effort. The actual vehicle which will be used on the high-capacity transitway is likely to change as the development density increases. Initially, conventional clean-fueled buses are contemplated, and the transitway will be designed to accommodate a higher capacity transit vehicle, such as a streetcar, as part of a possible later phase. Design vehicles for the transitway will be determined as future studies are completed, and coordinated with Arlington County. At this time, Arlington is strongly committed to a streetcar. The future studies will also confirm the route recommended by this Plan.

The high-capacity transitway will operate within a dedicated right-of-way along Route 1, turning into North Potomac Yard at Diamond Avenue and travel along Potomac Avenue into Arlington. This route allows an additional stop along Route 1 to serve the Lynhaven community (there is currently inadequate right-of-way width to accommodate an exclusive transit lane at the bridge crossing Four Mile Run). Arlington has made significant investments in a routing along Potomac Avenue, including a substantial station at Glebe and exclusive right-of-way that is already set aside. Right-of-way will be set aside to continue the same setback the length of Route 1.

Dedicated transit lanes are planned within the Route 1 corridor. The plans include; the widening of Route 1 to accommodate dedicated high-capacity transit within a landscaped central median; and provision of left turning movements while promoting a pedestrian-friendly environment designed as an urban boulevard with the transit vehicle within the central median. The interim route of the transit corridor will turn east at Glebe, and then north on Potomac Avenue.
Figure 25. Proposed Dedicated Transitway Route
The Plan recommends exploring options to incorporate innovative green technologies into the design of the dedicated transit right-of-way. The stations could be designed to include innovative real time transit information and innovative display technologies to include route maps, schedules and local and regional information. Stations will provide shelter from the elements, seating, and lighting. These facilities may also include real time information (audio and visual), ADA accessibility, ability to purchase fare media, level boarding, heating WiFi/wireless Internet, emergency intercoms, public art, and solar power.

Local and Circulator Transit Service
While Metrorail and dedicated transitway services are very important parts of the transit family, another mode of transit cannot be overlooked. These are local buses provided by DASH and Metrobus. These provide valuable connections between neighborhoods in the City. Currently, North Potomac Yard is served by local bus service, which provides seven day a week service to the existing shopping center. DASH will need to increase the service on this route and to add service from other parts of the City as the project develops. The Metrorail station will also service a transit hub that DASH and other transit providers will feed. DASH bus service also connects North Potomac Yard to the Del Rey neighborhood. Longer term plans call for direct bus connections from portions of the City, such as the West End, directly to North Potomac Yard. The Plan recommends that additional local-serving routes should be explored to connect locations within Potomac Yard to nearby communities and destinations.

F. Truck Loading
The growth in office, retail and other development will increase truck loading and deliveries. To maintain efficient traffic circulation in view of this challenge, the City will require a comprehensive policy regarding truck loading and deliveries during the development review process. Truck loading and deliveries are prohibited on A and B streets. Additional requirements regarding access and loading are outlined in the Design Guidelines.

G. Parking Management
Parking and curb space management is a critical feature of any transportation system that should be carefully coordinated with other transportation considerations. On-street parking spaces will be required to be efficiently managed to maximize turnover of spaces and encourage garage parking for longer stays. On-street parking spaces will be required to be metered and be part of a performance parking program to efficiently manage parking resources.

Parking garages should employ smart parking technologies including variable pricing and available parking space technologies. Wayfinding signage should be employed to efficiently direct drivers to parking garages and clearly indicate price and availability of parking. Parking garage entrance widths shall be minimized. More detail can be found in the Design Guidelines.

H. Bicycles
The bicycle network requires both on- and off-street bikeways to serve all users and trip types with particular focus on bicycle parking and better connections to transit. The network will enable more people to bicycle for some of their daily trips and increase the proportion of the workforce who cycle to work. The bicycle network is a key element in a multi-modal approach to transportation, has health and environmental benefits, and is consistent with the sustainability goals of the Plan.

An off-street shared-use path is required along the length of Landbay K between Braddock Road to the south and Four Mile Run to the north. The Landbay K path will provide a high-quality experience for pedestrians and bicyclists, and serve as a spine for a wider network of paths and associated connections.
Figure 1
Site Location and Planned Alignment

Legend
- VRE Station
- Metro Station
- Blue Metro Line
- Yellow Metro Line
- VRE Railroad
- Proposed Station Stop
- Columbia Pike Transit (Proposed)

Planned Alignment
- Mixed Traffic ROW
- Dedicated ROW
- Improvement Associated with CC/PY Project
- Improvement by Others
- Affected Parking

Figure 27. Crystal City/Potomac Yard Transitway Route

Crystal City/Potomac Yard Transit Improvements Project - Environmental Review
Designed to minimize conflicts and provide a direct connection between Braddock Metro Neighborhood and Potomac Yard, the trail is an important complement to the street grid.

The slow design speed and urban context of the streets will encourage cyclists to ‘take the lane’ on all streets where appropriate. However, on-street bicycle facilities on primary streets may include bicycle lanes and shared-lane markings (“sharrows”) intended to improve bicycle safety and provide a sense of security. Roadway crossings are critical to the connectivity of the bicycle network and intersections will be designed to stress the convenience and comfort of cycling.

Providing adequate end-of-trip facilities is a critical component of any bicycle network and perhaps more so in transit-oriented developments such as Potomac Yard. The Plan considers bicycle parking in a number of contexts:

- Bike stations in connection with public transportation along the transitway and Metrorail
- At homes and at workplaces
- At shops and retail centers
- On streets in general

The plan should explore a future connection from Landbay K to the Mount Vernon Trail. The plan should provide a 24-hour bicycle/pedestrian access bridge over the CSX tracks from Landbay F to the east.

I. Water Taxi

The Plan encourages the exploration and technical evaluation of water transportation on Four Mile Run and the Potomac River. Any future proposal for a water taxi should be consistent with the intent of the Four Mile Run Master Plan and Design Guidelines. A water taxi may reduce demand on other transit systems that may be carrying increased numbers of summer tourists and visitors to special events. Water taxis could link Potomac Yard to a growing system of waterfront destinations along the Potomac River, including Old Town, National Harbor, Anacostia, and Georgetown.

J. Transportation Demand Management

Transportation Demand Management (TDM) is a set of specific strategies that influence travel behavior by mode, frequency, time, route or trip length in order to help achieve an efficient and sustainable use of transportation facilities, along with other City goals such as promoting access for all transportation system users, improving mobility, and minimizing the negative impacts of vehicular traffic.

For the past 20 years, the City has had a program called the Transportation Management Plan (TMP) program which expressly identifies and funds TDM projects in new developments. Given the centrality of multimodal transportation in Potomac Yard and in order to ensure that the systems and programs are in place as needed to support the desired density, this Plan requires the participation in a TDM district to employ aggressive TDM measures with development in North Potomac Yard to achieve the 50% mode share targets assumed in the study.

These strategies will include limiting parking maximums, market-rate parking fees for all uses, performance parking, shared parking, parking management technology, transit passes, “unbundling” parking cost (parking facilities available at additional cost rather than included in unit cost), transit incentives, required TDM plans and monitoring, and similar measures.
Figure 28. Bike Lanes

Legend
- Dedicated Lanes - Trails
- Sharrow Lanes
- On - Street

North Potomac Yard Small Area Plan
Providing an appropriate supply of market rate parking is an important tool in the TDM strategies employed to create a great multi-modal community. Availability and cost of parking will heavily influence people's decision whether or not to drive. Parking should be available for those that choose to drive and are willing to pay its cost. At the same time, incentives (financial and otherwise) should be provided to those who choose not to drive. Parking maximums as discussed in the Land Use Chapter are required to achieve the modal split anticipated for new development.

### Transportation Recommendations

#### Streets

6.1 Provide a compact grid of streets consistent and in alignment with, and connecting to the established street grid in Potomac Yard (Potomac Avenue and Main Line Boulevard), on the west side of Jefferson Davis Highway (Route 1), and in Potomac Yard Arlington.

6.2 All streets and rights-of-way shall be dedicated to the City.

6.3 Maximize the street grid within the site and connectivity to adjacent neighborhoods including:
   - Reed Avenue shall be configured to allow all movements.
   - Explore and evaluate the option of opening Evans, Wesmond, and Lynhaven to provide access to Route 1.

6.4 Connect Reed Avenue from Route 1 to Potomac Avenue.

6.5 Consider all users in the design of streets and streetscapes.

6.6 Study, develop and implement a comprehensive phased approach to address traffic impacts in neighborhoods adjacent to development and other impacted neighborhoods. (See also recommendations in Chapter 8: Existing Neighborhoods).

6.7 Prior to the approval of a rezoning to increase density for the plan area, the provision and timing for a street connecting Route 1 to Commonwealth Avenue, or comparable street, circulation, and or transit improvements, will be required.

6.8 Prior to the approval of a rezoning to increase density for the plan area, the provision and timing for improvements to the intersection of E. Glebe Road at Route 1 are required.

#### Transit

6.9 Build a Metrorail station. Rezoning of the property is contingent upon the city and the landowner agreeing to a financial plan with a substantial developer contribution.

6.10 Develop a new intermodal transit hub at the new Metrorail station.

6.11 Require dedication of right-of-way along Route 1 to accommodate a high-capacity transitway.

6.12 Explore options to incorporate green technologies into the design of the dedicated transit right-of-way.

6.13 Vehicle for the dedicated transit way and timing of implementation should be determined in coordination with Arlington County.

6.14 Design development to maximize intermodal connectivity.

6.15 Develop a comprehensive on- and off-street bicycle network.

6.16 Require participation in a Transportation Demand Management (TDM) District in coordination with existing Potomac Yard TDM District.
Transportation Recommendations (continued)

6.17 Employ aggressive Transportation Demand Management (TDM) performance measures, meeting or exceeding a 50% modal split.

6.18 Establish parking maximums. (See also recommendations of Chapter 4: Land Use).

6.19 Provide unbundled residential parking.

6.20 Require shared parking.

6.21 Require on-street parking for all streets, excluding park frontages. On-street parking is required to be metered and managed through a performance parking program.

Pedestrian – Bicycle

6.20 Provide a continuous, connected and accessible network that enables pedestrians – particularly those with mobility impairments – to move safely and comfortably between places and destinations.

6.21 Develop a connected system of primary and secondary bikeways with ample bicycle parking to serve all bicyclists’ needs.

6.22 Provide a 24-hour bicycle and pedestrian connection across the railroad tracks to Potomac Greens.

6.23 Provide centralized bicycle storage facilities, located near the Metrorail and transit locations for all users of Potomac Yard – including areas for private and for shared use bicycles. Commuter and recreational bicycle information could also be available to residents and visitors.

6.24 Explore future connection from Landbay K to the Mount Vernon trail.
7 Infrastructure
Infrastructure

A. Water Management Master Plan
With the intent of fully complying with Alexandria’s Eco-City Charter, a full Water Management Master Plan (WMMP) is required to be provided by the developer that coordinates water supply, stormwater, and wastewater systems will be provided. The WMMP will apply systems thinking to create a plan that reduces potable water use by capturing and reusing rainwater, reducing wastewater generation through water conservation, and reusing greywater. These, in turn, will serve to reduce development impact on the sewer infrastructure and improve the instream habitat for Four Mile Run, the Potomac River and the Chesapeake Bay.

B. Stormwater Management
Redevelopment presents an opportunity to coordinate stormwater management on individual parcels and the entire plan area simultaneously. To accomplish the innovative stormwater goals envisioned as part of this Plan, a stormwater master plan is required prior to redevelopment of the site. Both smaller onsite systems and larger facilities serving multiple blocks will be required to be integrated as part of the stormwater master plan. The innovative techniques specified in the master plan shall provide enhanced stormwater performance measures that exceed water quantity and quality requirements current at the time of development. Individual parcels, for example, should incorporate elements such as green roofs, rain water harvesting, and bio-retention areas to reduce the amount of stormwater runoff generated and reuse the majority of the amount remaining. The harvested rainwater shall provide irrigation to adjacent vegetated areas such as onsite landscaping and tree wells located in the public right of way. Larger stormwater facilities, such as the stormwater management pond in Crescent Park, will be required to be designed to provide a high level of nutrient removal as well as function as a high quality recreational amenity for residents and visitors and be integrated into the overall design of the park. The stormwater master plan may allow for the possibility of locating limited stormwater management infrastructure in the public realm. Low Impact Design (LID) techniques that require infiltration such as bioretention and pervious surfaces will require special consideration due to low-level soil and groundwater contamination remaining from Potomac Yard’s previous use as a railyard.

Since the plan area is uniquely located at the confluence of Four Mile Run and the Potomac River, the development is required to support the guidelines set forth in the Four Mile Run Master Plan while further enhancing protection of the adjacent Resource Protection Areas (RPA). The stormwater management techniques utilized throughout the development will highlight stormwater as a functional amenity while contributing to the distinct character envisioned for each of the neighborhoods.

C. Wastewater Management
North Potomac Yard will have a significant impact on the Alexandria Sanitation Authority’s (ASA) wastewater collection and treatment systems. As a condition of approval of the Potomac Yard/Potomac Greens CDD, a sanitary sewer line was built from the Potomac Yard development directly to the ASA Advanced
Wastewater Treatment (AWT) facility. This Potomac Yard Offsite Sanitary Trunk Sewer (PYTS) was required because the City’s sanitary sewer collection system did not have sufficient capacity to carry the sanitary flows from the CDD. The PYTS was designed to include additional capacity (beyond the anticipated requirement of CDD at that time) to meet future needs of the City including the diversion of wet weather flows from the Four Mile Run Pump Station, separation of combined sewer system (CSS) flows in the Old Town area, and limited development along the Route 1 corridor. This additional capacity was not planned for North Potomac Yard.

In the Potomac Yard/Potomac Greens CDD, it was anticipated that the redevelopment of North Potomac Yard would contain about 600,000 square feet of development, while the current proposed redevelopment of North Potomac Yard is approximately 7.5 million square feet. The sanitary flows generated from this level of development exceed the remaining capacity in the PYTS, including what had originally been designed to accommodate future City needs, i.e., separated sanitary flows from CSS area and other future developments.

Based on preliminary analysis, the City’s conservative estimates depict that an assignment of the available capacity will likely lead to surcharged (i.e. an over capacity) condition within the PYTS. The City has evaluated several options for accommodating the additional flows anticipated from North Potomac Yard, which include use of low flow plumbing fixtures and practicing water conservation measures to reduce generation of the municipal wastewater, construction of a separate, parallel sanitary trunk sewer, partial on-site treatment, and reuse of gray water. The use of low flow fixtures and water conservation practices are in accordance to the Eco-City Charter adopted by the City of Alexandria. Staff and the applicant continue a partnership to research and evaluate other pioneering technologies to address the capacity needs. The applicant will need to pay significant funds in order to provide wastewater collection, conveyance and treatment capacity to service the 7.5 million in proposed development.

In addition to the limited conveyance capacity, the City is evaluating capacity needs at the ASA treatment facility. Based on the most current development projections, the City will need additional capacity at the ASA plant in the next fifteen years. Staff is currently evaluating the options for obtaining this additional capacity. Due to environmental regulatory requirements and state-mandated caps on the discharge of nutrients (nitrogen and phosphorous) from wastewater treatment facilities, there are several costly challenges to providing this additional capacity.

Because the volume flow projected from this development may exceed the City’s remaining capacity at the ASA treatment plant, the project will need to participate in the creation of the necessary additional capacity, as well as buying additional nutrient capacity through the state’s new cap and trade program to support this project. Staff at the City and ASA are evaluating the necessary technologies and strategies to address this need.
## Infrastructure Recommendations

7.1 Require the submission of a master plan for storm and wastewater management with the CDD approval. The Plan will be updated/amended with each building and/or block to demonstrate compliance with each applicable phase.

7.2 Require use of pervious surfaces on roofs, sidewalks, and streets to reduce generation of stormwater runoff. Maximize use of rooftop space for other sustainability practices, (for example, for public open space, community gardens, green roofs, energy generation, etc).

7.3 Maximize on-site stormwater reduction and reuse techniques to reduce impact on public stormwater infrastructure.

7.4 Remove impervious surfaces within RPAs and revegetate to restore function and quality.

7.5 Use harvested rainwater to meet irrigation demand.

7.6 Maximize exposure of stormwater management facilities as functional amenities to promote citizen awareness and understanding of stormwater quality issues.

7.7 Use water conservation measures to reduce the generation of municipal wastewater and reuse of greywater.

7.8 Construct additional sanitary sewer conveyance infrastructure and address Chesapeake Bay nutrient treatment needs.

7.9 Pursue partial on site treatment of sanitary flows.

7.10 Research and evaluate other pioneering technologies to address the capacity needs.
Existing Neighborhoods
Existing Neighborhoods

A. Neighborhood Character
The planning principles state that connections and transitions should be provided which are appropriate and protective of the character of surrounding neighborhoods. Each of the neighborhoods surrounding the plan area has a unique character that should be retained. New development should be compatible and serve as an extension of existing surrounding neighborhoods.

B. Established Neighborhoods
The neighborhoods located across from the plan area on the west side of Route 1, are low-density residential neighborhoods of historical and architectural significance. In particular, the Town of Potomac (which includes portions of the present-day Mount Jefferson and Del Ray communities), was designated a National Register Historic District in 1992. The area began to develop in 1894 as the planned residential communities of Del Ray and St. Elmo, and was incorporated as the Town of Potomac in 1908 before being annexed by the City of Alexandria in 1930. These neighborhoods were some of the first streetcar suburbs in America.

The Lynhaven community is located directly across from North Potomac Yard on the west side of Route 1. The Lynhaven community is a predominately residential community of single-family, townhouse, and multi-family homes, most of which were constructed in the 1940s to house the largely African-American Potomac Yard railroad workers.
The Del Ray and Mount Jefferson communities are located just south of Lynhaven on the west side of Jefferson Davis Highway across from Landbays G, H, I, and J. The communities include a mix of single-family, duplex, and multi-family homes, and commercial and industrial uses. Activity in this area is centered around the Mount Vernon Avenue commercial district. Many of the railroad workers at Potomac Yard resided in the Del Ray and Mount Jefferson communities.

C. New Neighborhoods

New, medium and high density neighborhoods are also located in the vicinity of the plan area, and include Potomac Yard Arlington, Landbay G (Town Center), and Potomac Greens.

Across Four Mile Run, Potomac Yard Arlington is a mixed-use, urban development which, when complete, will include approximately two million square feet of office uses, 225,000 square feet of retail uses, 1,500 multi-family homes, and 625 hotel rooms. Building heights will range from 118 to 159 feet.

In early 2009, the City Council approved a mixed-use, urban “Town Center” development in Landbay G. The Town Center was approved for approximately 700,000 square feet (net) of office uses, 183,000 square feet (net) of retail uses, 414 multi-family homes, and 623 hotel rooms.

Potomac Greens lies to the east of the CSX railroad and Metrorail tracks. It is a new residential community consisting of 3- and 4-story townhouses and stacked townhouses. The Potomac Greens development is located in Landbay A of Potomac Yard/Potomac Greens. Building heights range from 45 to 100 feet. In addition, there is a small retail hub on Slater’s Lane which is located in Landbay C (Potomac Plaza).

D. Connectivity and Accessibility

The existing neighborhoods are served by an interconnected system of streets, pedestrian and bicycle routes and trails, and open space. Route 1 is currently perceived as a barrier between the existing neighborhoods and Potomac Yard, in particular for pedestrians and bicyclists. The 1999 Concept Plan for Potomac Yard strives to connect new Potomac Yard neighborhoods with existing neighborhoods across Route 1 and to integrate new development with established stable neighborhoods. The continuation of this philosophy in the plan area will not only enable residents, workers, and visitors of existing neighborhoods to access a greater variety of services and amenities, but also create a more cohesive and vibrant community atmosphere.

Figure 29. Contextual Map—Existing Neighborhoods
North Potomac Yard Small Area Plan

neighborhoods to access amenities at Potomac Yard, but also it will increase the accessibility of amenities in existing neighborhoods to future residents, workers, and visitors of Potomac Yard. Specific information concerning the transportation network can be found in Chapter 6: Transportation and Infrastructure.

E. Mitigating Neighborhood Traffic Impacts

The Potomac Yard Multimodal Transportation Study found that traffic will increase with new development, including on collector streets such as E. Glebe and Reed, and incremental increases on local streets. Currently, the majority of streets on the west side of Route 1 do not have access onto Route 1 nor do they provide direct access to collector roadways on the west. Threshold analyses were performed to confirm that the anticipated volumes on the east-west roadways would not exceed the design capacity of the local roadway system. The analysis also showed that the greater the connectivity of the street grid the greater the dispersal of trips on the network and thus the impact on any one street is minimized. The Plan provides for a number of amenities and benefits to surrounding neighborhoods, including enhanced transit service, better connectivity and bicycle and pedestrian accommodations. Chapter 6: Transportation identifies a number of recommendations that address issues of connectivity and mitigating impacts on adjacent neighborhoods.

While the anticipated impact does not exceed the technical capacity of the existing local street, there will be some impacts perceived by the residents living in adjacent neighborhoods. There are a variety of traffic calming tools that can be implemented to further manage issues of speed and volume. The narrow streets and frequent blocks in the adjacent neighborhoods are already a model of good neighborhood design that distributes traffic and encourages lower speeds.

In anticipation of increased traffic volumes, a variety of additional traffic calming and parking management strategies could be considered. The Plan recommends a comprehensive traffic calming strategy be implemented in the immediately adjacent neighborhoods and beyond, and appropriately phased with development as it comes in for review. Baseline traffic data should be collected for evaluation of future impacts of development. While a number of tools would be considered as part of the comprehensive strategy, one strategy may be to provide traffic calming treatments specifically within the first blocks off of Route 1 to alert drivers of the residential character of the neighborhoods. Other tools include managing intersections with traffic circles, developing a parking management plan and other traffic calming treatments.
## Existing Neighborhoods Recommendations

8.1 Require the developer to provide a monetary contribution for the preparation and implementation of a comprehensive traffic calming and parking management strategy for the neighborhoods to the west of Potomac Yard. The study and implementation shall be proactive and phased with development.

8.2 Evaluate alternatives for traffic calming treatments at gateway locations along the west side of Route 1 and throughout neighborhoods.

8.3 Promote smooth transitions between existing neighborhoods and new development at Potomac Yard through a careful consideration of uses, heights, and massing.

8.4 Development at Potomac Yard should preserve and build upon the unique history and character of existing neighborhoods.

8.5 Develop connections which are consistent and compatible with existing development within Potomac Yard and across Route 1.
Appendix I: Background
Background

The Planning Area
The Potomac Yard/Potomac Greens site is a 295-acre brownfield located in the northeast area of the City of Alexandria (“the City”) immediately south of downtown Washington, D.C. and Ronald Reagan Washington National Airport. The area has served as a north-south trade and transportation corridor since prehistoric times, and most recently as the site of an active railroad (See Appendix 3: Potomac Yard History). Today, the site is divided into two main parcels – Potomac Yard and Potomac Greens – by a 120 foot wide active railroad corridor running north-south through the tract. Potomac Yard is further divided into smaller portions or “landbays.” The focus of this plan is Landbay F (Figure 30).

Figure 30. Potomac Yard Overall Landbays
Landbay F – Current Uses
At 69.07 acres in size, Landbay F (Potomac Yard Center) is the largest property in Potomac Yard/Potomac Greens. Landbay F is located in the northern portion of Potomac Yard, is roughly rectangular in shape, and is approximately one-half mile in length from north to south. It is bordered by Landbay E and Four Mile Run to the north, Landbay G (Town Center) to the south, Landbay K (Potomac Yard Park), CSX Railroad tracks, Washington Metropolitan Area Transit Authority (WMATA) Metrorail tracks, and Landbay A (Potomac Greens) to the east, and Jefferson Davis Highway (Route 1) to the west.

Landbay F was developed in the mid-1990s as an automobile-oriented, approximately 590,000 sq. ft., retail shopping center with predominately “big box” national retailers, pad sites, a 16-screen cinema, and surface parking. When it was developed it was intended to be an interim use, and not a long term use.

In early 2009, the City Council approved an urban, mixed-use Town Center in Landbay G, with a total of 1,766,868 net square feet, a relative floor area ratio (FAR) of 2.2,¹ and building heights between 45 and 110 feet. In addition, to the north across Four Mile Run, the development of Potomac Yard Arlington is well under way, with a planned total gross square footage of 4,409,835, an FAR of 2.03,² and building heights of 118 to 159 feet.

Status of Other Potomac Yard Landbays
Landbay A (Potomac Greens): Final Development Special Use Permit (DSUP) approved for up to 244 residential units and approximately 20 acres of open space. Potomac Greens is currently under construction.

Landbay C (Potomac Plaza): Developed with 15,000 square feet of street retail.

Landbay D (Rail Park): Special Use Permit (SUP) approved for approximately four-acre park. Construction has not commenced.

¹ As defined by the City of Alexandria.
² As defined by Arlington County.
Landbay E (Four Mile Run): No plans submitted or approved.

Landbay G (Town Center): Preliminary DSUP approved for up to 800,000 square feet of office space, 625 hotel rooms, 80,000 square feet of street retail, 414 residential units, and 1.6 acres of open space. Construction has not commenced. A portion of Landbay G is developed with “The Station,” a City-owned, collocated fire station and 64 affordable housing units.

Landbay H: No plans submitted or approved.

Landbay I: Preliminary DSUP approved for a portion of Landbay I for the construction of 116 townhouse and stacked townhouse units.

Landbay J: Preliminary DSUP approved for a portion of Landbay J for the construction of 60 townhouse and stacked townhouse units.

Landbay K (Potomac Yard Park): Preliminary DSUP approved for an approximately 24-acre park.

Landbay L: No plans submitted or approved.

Landbay M: No plans submitted or approved.

Landbay N: No plans submitted or approved.

Prior Planning History

Plans for the redevelopment of Potomac Yard have been underway for over 20 years. Starting in the late 1980s, the City began updating the 1974 Master Plan and the Richmond, Fredericksburg & Potomac (RF&P) Railroad began to explore development alternatives for Potomac Yard because it was no longer being used as a rail yard. The first proposal (for the entirety of Potomac Yard), Alexandria 2020, was a mixed-use, neighborhood development which continued the street grid of the adjacent neighborhoods and replicated typical setbacks, heights and architectural styles. The plan included a tree-lined interior boulevard, parks, and pedestrian gathering places. The plan included a Metrorail station near the center of Potomac Yard, with the potential for commuter rail service and bus connections. The total amount of development proposed in the 2020 plan was approximately 16 million sq. ft.

Alexandria 2020 was never formally submitted to the City for approval; however, the City approved new zoning for the site in the context of updating the Master Plan in 1992. The new zoning, Coordinated Development District (CDD), provided for a lower level of development than was proposed in the Alexandria 2020 plan, with approximately 8.8 million sq. ft. of development.

In the early 1990s, the owner of Potomac Yard pursued a proposal to locate Jack Kent Cook football stadium at Potomac Yard. This proposal did not go forward, but as part of discussions related to the stadium, the permissible densities were increased to allow approximately 11.4 million sq. ft to be built.

In 1997, the City entertained a proposal for changes to the Master Plan and CDD to allow the location of the Patent and Trademark Office (PTO) at Potomac Yard. However, the request was denied by the Planning Commission and withdrawn by the applicant prior to the City Council hearing. The PTO subsequently located its offices elsewhere in Alexandria at Carlyle.

Landbay F was developed in the mid-1990s as an interim use in accordance with its underlying zoning: Commercial Service Low (CSL) and Industrial (I). The property was rezoned to CDD #10 subsequent to its development along with the remainder of Potomac Yard/Potomac Greens.
Current Land Use and Zoning

In 1999, City Council approved an updated Potomac Yard/Potomac Greens Small Area Plan and rezoned the property to Coordinated Development District (CDD #10). Approved levels of development for each landbay are detailed in Figure 31: Potomac Yard/Potomac Greens Alternative Concept Plan.

The City has approved a number of revisions to this plan since 1999, but it remains the current operative plan for Potomac Yard and allows for approximately 6.4 million sq. ft. of development overall. In accordance with this plan, Landbay F is limited to 600,000 sq. ft. of retail uses and Landbay L is approved for 358 residential dwelling units and 10,000 sq. ft. of street retail.

Potomac Yard/Potomac Greens is subject to the Potomac Yard Urban Design Guidelines (the “Design Guidelines”) which were adopted in 1999 as part of the Small Area Plan. The Potomac Yard Design Advisory Committee (PYDAC) reviews plans for conformance with the Design Guidelines as part of the Development Special Use Permit (DSUP) process required by the CDD zoning.

To date, construction is complete in Landbay C (Potomac Plaza) and nearing completion in Landbay A (Potomac Greens). In addition, “The Station” – a mixed-use fire station/affordable and workforce housing/retail building located in Landbay G – is nearing completion. A number of infrastructure improvements are in place throughout Potomac Yard/Potomac Greens, including the Monroe Avenue Bridge and portions of the framework street network.
Appendix II: Context for Plan
Context for Plan

Role of The Plan
The City Council established the Potomac Yard Planning Advisory Group in October 2008 to function, in part, as a conduit for community values, knowledge and ideas, and to advise City staff on the development of the small area plan and plan recommendations. The purpose of this plan, as outlined in the PYPAG Vision Statement, is to establish the City's vision for North Potomac Yard as an environmentally and economically sustainable and diverse 21st Century urban, transit-oriented, mixed-use community that is compatible with adjacent neighborhoods and which is a regional destination with diverse built and natural spaces. Additional information concerning the PYPAG can be found in Appendix 4: Community Outreach.

This Plan lays the foundation which will guide development in North Potomac Yard for the next 30 years. Keeping its functional life in mind, this plan is intentionally flexible in order to accommodate new approaches (such as new technologies, policies, or methods) to achieve the Plan's goals. As the City plans its future, Potomac Yard will play an important role in helping Alexandria achieve its goal of being a world-class, environmentally and economically sustainable city.

History and Historical Character
Potomac Yard has a long history of serving as a major north-south trade and transportation corridor from prehistoric times through the present. Detailed information concerning Potomac Yard's colorful history can be found in Appendix 3: History.

Existing Conditions and Policies
This planning effort has been guided by the principles, goals, and recommendations of City policy documents which lay the foundation upon which the recommendations of the North Potomac Yard Small Area Plan are based. These policy documents include:

- Potomac Yard/Potomac Greens Small Area Plan (1992)
- Potomac Yard/Potomac Greens Small Area Plan (1999), as amended through June 2008
- Open Space Plan (2002)
- Historic Preservation Plan (1992)
- Pedestrian & Bicycle Mobility Plan (2008)
- Mayor’s Economic Sustainability Work Group Final Report (October 2007)
- Transportation Master Plan (2008)
- Eco-City Environmental Charter (2008)
- Green Building Policy (2009)
• Urban Forestry Master Plan (2009)

Demographics and Forecasts
There are currently no residential units in North Potomac Yard, therefore, there is no demographic data available for the area. However, 1999 Census data is available for the adjacent areas of Potomac West and Crystal City.

Potomac West is located to the west of Potomac Yard. It is an approximately 2.13 square mile area which roughly includes the Arlandria, Del Ray, Lynhaven, Mount Jefferson, and Rosemont neighborhoods (Census Tracts 2012.02, 2012.03, 2012.04, 2014.00, and 2015.00). Key characteristics of the Potomac West area are as follows:

- Population: 22,331
- Race: White non-Hispanic, 44%; Hispanic, 27.9%; Black non-Hispanic, 23%
- Age: Under 18, 20.3%; 18-64, 73.9%; Over 65, 5.8%
- Mean Household Income: $69,684
- Tenure: Owner-occupied, 44.2%; renter-occupied, 55.8%
- Housing Type: single-family detached, 25.3%; single-family attached, 31.5%; 2+ units attached, 43.1%

Crystal City is an approximately 1.71 square mile area located to the north of Potomac Yard in Arlington County (Census Tract 1034.02). Key characteristics of the Crystal City area are as follows:

- Population: 3,012
- Race: White non-Hispanic, 72.9%; Asian, 9.9%; Black non-Hispanic, 7.9%, Hispanic, 5.8%
- Age: Under 18, 3.3%; 18-64, 83.5%; Over 65, 13.2%
- Mean Household Income: $86,274
- Tenure: Owner-occupied, 15.3%; renter-occupied, 84.7%
- Housing Type: single-family detached, 1.4%; 2+ units attached, 98.6%

Analysis of Market Conditions
Robert Charles Lesser & Co. (RCLCO) completed a retail market study for North Potomac Yard (Potomac Yard Center) and Landbays G and H/I (Town Center). For the purposes of the study, a development program was assumed for North Potomac Yard including: 900,000 to 1,100,000 square feet of office uses; 800,000 to 900,000 square feet of retail uses; 4,500 to 5,000 residential dwelling units; and 250 to 300 hotel rooms. The study also considered approved densities for Landbays G and H, and part of Landbay I, and the greater market area.

Based on projections of future households and workers in the market area, the study concludes that there is sufficient market support for approximately 1.27 million square feet of retail uses in North Potomac Yard and Landbays G and H/I including approximately:

- 495,000 square feet of Major Comparison Retailers, such as department and general merchandise stores, and electronics, home furnishings, and book stores.
- 230,000 square feet of In-line Comparison Retailers, including smaller tenants selling specialty goods, such as apparel and apparel accessories, jewelry, home goods and furniture, books and music, and electronics.
- 325,000 square feet of Neighborhood Retailers which serve every day consumer needs, such as grocery stores, pharmacies, and other convenience retailers.
• 220,000 square feet of Food and Beverage, including full-service sit-down restaurants; limited-service, take-out, fast-food, and fast-casual restaurants, and bars and clubs.

The study envisions North Potomac Yard and the Town Center as two distinct and complementary retail districts. North Potomac Yard would function as a regional “lifestyle” retail destination which combines all four of the above-named retail uses, plus entertainment options. In contrast, retail uses in Landbays G and H/I (Town Center) would cater primarily to local residents, workers, and transit users.

The study concludes that retail projects in North Potomac Yard and the Town Center would fill a gap in the retail market in Alexandria and surrounding areas which currently lacks new, large-scale, urban retail options. In addition, retail projects at Potomac Yard would enable the City to better capture retail sales dollars that are currently lost to neighboring jurisdictions.

Opportunities and Constraints

Opportunities
A number of opportunities present themselves at Potomac Yard. These opportunities are rare in an urban location and include:

• Size: Potomac Yard is one of the largest developable properties in the City and the region. North Potomac Yard is over 69 acres in size.
• Location: Potomac Yard is located in close proximity to downtown Washington, D.C. and Reagan National Airport. It is a natural “gateway” into Alexandria.
• Transportation: Potomac Yard is accessible from Jefferson Davis Highway (Route 1), a major north-south route for local and regional traffic in the eastern area of the City. In terms of public transit, Potomac Yard is part of the greater Potomac Yard/Crystal City Transit Corridor for which there are plans for dedicated transit lanes, and there is the potential for the location of a Metrorail station at Potomac Yard.

Constraints
In order to take advantage of the opportunities of the site, certain constraints must be mitigated or managed. These constraints include:

• Existing Infrastructure: The existing road network and stormwater and sanitary sewage treatment capacity systems have limited capacity. Unless expanded, these capacities will limit the densities that can be accommodated at Potomac Yard.
• Financing: In order to finance the needed transportation infrastructure centerpiece Metrorail station significant developer participation is imperative but not easily achieved given costs and the realities of the current development financing market.
• Federal Aviation Administration (FAA) Height Restrictions: North Potomac Yard is impacted by FAA height restrictions which have been imposed on properties in the vicinity of Reagan National Airport.
• Neighborhood Impacts: Potomac Yard is surrounded by many residential neighborhoods of historic significance (See Chapter 4: Existing Neighborhoods). Development at Potomac Yard could have impacts on the adjacent neighborhoods, particularly in terms of traffic generation and building heights.
• Accessibility: Accessibility to North Potomac Yard is limited. The property is surrounded by water to the north (Four Mile Run) and CSX railroad and Metrorail tracks to the east. In addition, road connections to the north and south are limited, and there are no connections to the east.
Appendix III: History
The History of Potomac Yard: A Transportation Corridor through Time
By Francine W. Bromberg, Alexandria Archaeology

The area that became Potomac Yard has a long history of serving as a trade and transportation corridor. From prehistoric times through the present, these level terraces paralleling the Potomac River provided a north/south pathway for moving people and goods. While the modes of transportation changed—from foot to horse and stagecoach, then to canal boats, and later to trains and automobiles, the landform remained an important link in the route connecting people and places throughout the course of history.

Native American Occupation
The word “Potomac” is thought to derive from an Algonquian Indian term meaning “where things are brought in” or a place for trade (National Museum of the American Indian 2008). Thus, even before the arrival of Europeans, the area was recognized as a transportation hub and center for the exchange of goods. While the river itself served as the major natural transportation corridor for Native Americans in their canoes, an old Indian trail purportedly followed the ridge from the Rappanhanock to the Potomac and developed into present-day Telegraph Road in the local area (Netherton et al. 1978:20).

Bands of Native American hunters and gatherers may have traversed the area that became Potomac Yard as early as 13,000 years ago. More intensive occupation undoubtedly began about 5000 years ago when anadromous fish became abundant in the Potomac (Bromberg 1987). In addition, the nearby marshes, which formed as the glaciers melted, provided a wide variety of resources. Temporary encampments to exploit the marsh resources and take advantage of the reliable spring fish runs probably continued on the Potomac Yard terraces into the historic period, which begins with John Smith’s voyage up the Potomac River in 1608. At that time, Smith recorded the locations of two nearby agricultural hamlets, Nameraughquend to the north (on what is now National Airport) and Assaomeck to the south (near Belle Haven), from which foraging parties could have departed for exploitation of the swamp and fish resources of the Potomac Yard property (Smith 1608).

Tobacco Plantations, Farms, Towns And Turnpikes, 1669-1830
The area that became Potomac Yard was part of a 6,000-acre grant awarded to ship captain Robert Howsing (Howson) for the transport of 120 settlers to the Virginia colony in 1669. Not a settler himself, Howsing wasted no time in converting his property to the currency of the time, and sold the acreage to John Alexander, a planter residing in what is now King George County, for 6 hogsheads (6,000 pounds) of tobacco (Miller 1992a:107; Walker and Harper 1989:3-4; Mullen 2007:28). From the 1670s until the 1730s, John Alexander and his descendants leased the property to tenants. Thus, the earliest historical settlement of the land that became Potomac Yard consisted of tenant farms on large landholdings owned by absentee landlords (Walker and Harper 1989:3-4; Mullen 2007:28).
In the 1730s, members of the Alexander family began subdividing the property and established plantations on it (Mullen 2007:28). John Alexander’s great grandson John and his wife Susannah Pearson Alexander set up a quarter in the northern section of what was to become Potomac Yard. It is likely that enslaved African Americans lived in the quarter and worked the tobacco fields under the supervision of an overseer (Mullen 2007:30). Other plantations were established on adjacent properties by Alexander’s descendants, including the Dade plantation to the southeast and Abingdon north of Four Mile Run. It is likely that John and Susannah’s son Charles built the Preston plantation house in the 1750s or 1760s, in roughly the same location as the original quarter (Mullen 2007:30). The family cemetery was situated nearby (Miller 1992a:109). The river still served as a transportation artery, and the large landholdings had been subdivided to allow each plantation frontage on the Potomac.

Overland travel also linked the early plantations. A branch off the old Indian trail running closer to the river became known as the Potomac Path and developed into the present-day Route 1 (Netherton et al. 1978:20). In 1749, Alexandria was established south of the Potomac Yard property on a portion of Alexander’s land around a tobacco warehouse and inspection station built to facilitate shipment of the cash crop to England. With the formation of the town, roads such as the Potomac Path took on new importance as stage and post roads.

Sometime during the second half of the eighteenth century, a road was extended north from Alexandria, incorporating portions of what is now Route 1, to the vicinity of present-day Rosslyn. There, a ferry shuttled passengers and goods across the Potomac to Georgetown. Known as the Georgetown Road, it was the route taken by the French army, led by Comte de Rochambeau, on their way to and from Yorktown to fight with the Americans against the British in 1781. A sketch map indicates that a portion of the French army camped adjacent to the road, probably near the southern end of what was to become Potomac Yard (Mullen 2007:32).

As the eighteenth century progressed, farmers abandoned the cultivation of tobacco for wheat, and the large plantations were subdivided into smaller farms. The growth of the town of Alexandria, along with the establishment of Washington, D.C., in 1791, created markets for the foods that could be cultivated on these smaller farmsteads and necessitated additional improvements in the transportation corridor. Wealthy townspeople also kept gardens, orchards and small farms on the outskirts of the town. One such farm, owned by the Fendalls, who resided in town on Oronoco Street, extended into the area that was to become Potomac Yard. In 1805, it was leased to innkeeper John Gadsby, who undoubtedly carted the produce to town for use in his tavern and hotel (Miller 1992:110; Mullen 2007:31).
Recreational and institutional facilities arose along this transportation corridor in the rural community to serve the growing town. In the late 18th and early 19th centuries, a horse-racing track was located north of town, and around 1800, Alexandria constructed an alms house at the northwest corner of present-day Monroe Avenue and Route 1, just outside of the property that would become the rail yard. The poorhouse provided shelter, food and clothing to indigent residents of town and functioned as a work house and farm. In addition, local courts sentenced petty criminals to serve time in the work house (Mullen 2007:31).

Good roads through the area that would become Potomac Yard became crucial to the town’s economy; however, most were haphazardly constructed and poorly maintained. In 1785, a group of Alexandrians received permission from the Virginia General Assembly to erect toll gates on the Georgetown Road in order to raise money for road maintenance. This strategy proved inadequate, and by the 1790s, some local residents began forming private companies to build turnpikes to raise capital for road maintenance and improvements. In 1808, the Washington and Alexandria Turnpike Company received a charter to build a turnpike between Alexandria and Washington, and the turnpike opened in 1809. It began on Washington Street in Alexandria, then headed north following the route of the Georgetown Road, and continued along the present-day path of Route 1 toward a new bridge constructed over Four Mile Run. The toll house was situated on the south side of the bridge (Mullen 2007:33; Miller 1992a:114-115).

Transportation Improvements: Canal and Railroads, The Civil War, and the Seeds of Suburbanization, 1830-1905

Despite the construction of the turnpikes, overland travel remained slow. The level terraces that were eventually developed into Potomac Yard became the site of transportation innovations that connected Alexandria to the north, west, and south—first cutting through the rural landscape and then helping to transform it into suburban communities.

The Alexandria Canal

As cities and towns on the east coast began to grow, competition for trade with the agricultural lands to the west intensified, and merchants became anxious to improve navigation around the falls along the Potomac River. For Alexandrians, competition with Georgetown was always an issue. With plans for the construction of the Chesapeake and Ohio Canal connected to Georgetown on the Maryland side of the river, Alexandrians became concerned that trade would bypass their wharves and that the town would lose its connection to the west, which was so vital to its economic interests. To connect Alexandria with the Chesapeake and Ohio, the Alexandria Canal Company was chartered in 1830, and the canal opened for navigation in 1843. It crossed the Potomac via an aqueduct bridge, an amazing feat of engineering for its time, with a 1,000 foot-long trough resting on 8 masonry piers. Canal boats were then pulled for 7 miles along the flat ground that would later become Potomac Yard, and lowered to the level of the Potomac through four lift locks at the north edge of town. With the completion of the canal, business flourished for a time with wheat, corn, flour and whiskey carried downstream and fish, salt, plaster, and lumber transported on the upstream journeys. After 1850, when the C&O Canal reached Cumberland, Maryland, coal became the major commodity for downstream transport. When the coal reached Alexandria’s port, much of it was loaded onto seagoing vessels for export to cities along the east coast and in Europe (City of Alexandria n.d.; Mullen 2007:34).
The Railroad Era Begins
While the canal was successful for a while, it was no match for the railroads, and ceased operation in 1886. Towns like Baltimore, which had invested in the railroad industry in the early nineteenth century, became the industrial centers of the northeast. Rail transportation finally came to Alexandria in 1851 with the opening of the Orange and Alexandria rail line, which headed west along tracks that ran parallel to Duke Street.

The first line to traverse the Potomac Yard property was built to link Alexandria and Washington. Completed in 1857, the Alexandria and Washington Railroad had six trains daily, leaving from a station on St. Asaph Street. Passengers found it a fast and convenient way to travel between the two cities and to connect with trains headed north. In addition, food and other products could be transported by rail for sale in Washington or transferred to northbound trains in the capital (Mullen 2007:34).

Plans for another railroad had begun to take shape in 1853, when a group of local residents, hoping to help Alexandria compete with Baltimore for trade with the west, secured a charter for the Alexandria, Loudoun and Hampshire railroad. Construction began in 1855, and trains began running between Alexandria and Leesburg in 1860, crossing from the southeast toward the northwest through what would become Potomac Yard (Mullen 2007:34, 39).

The Civil War: Rail Connections Improved
The connection of the north and south railroad lines through Alexandria occurred as a result of the Civil War. On March 24, 1861, the day after Virginia seceded from the Union, Federal troops entered by city, and it remained an occupied town throughout the course of the war. Tens of thousands of soldiers passed through the area, and during the early years of the war, the 5th Massachusetts may have camped on what would become Potomac Yard property (Mullen 2007:40-41). Control of the railroads leading out of Alexandria to the west and south probably served as the major impetus for this occupation. Alexandria became a major depot for shipment of supplies and troops to the front as well as a hospital and convalescent center for those injured. The U.S. Military Railroad complex, a secure and stockaded 12-block area enclosing the facilities of the Orange and Alexandria, was constructed. The three rail lines to enter the city were connected and expanded during the occupation, and the rail connection with the North was made complete when tracks were laid across Long Bridge to the Baltimore & Ohio Railroad (Mullen 2007:39-40).

Post-War Seeds of Suburbanization
Throughout the nineteenth century, land use in the area that would become Potomac Yard remained largely agricultural. The Swanns, descendants of the Alexanders, lived near the former location of Preston Plantation, which was burned down during the Civil War. The Daingerfields owned much of the land, and Susan Barbour, daughter of Henry Daingerfield and wife of U.S. Congressman and then Senator John Barbour, erected a house on the property in the 1870s. A small community, which included a school house by 1878, grew up near the intersection of what is now Monroe Avenue (Poorhouse Lane) and the turnpike. In 1894, two planned residential developments, Del Ray and St. Elmo, were established on the west side of the turnpike and laid the groundwork for the suburbanization that was to occur around Potomac Yard in the
The proximity to the railroads made it possible for residents to commute to jobs in Alexandria and Washington. On the A&W rail line, St. Asaph Junction station served the community of Del Ray, and the Washington and Ohio station served St. Elmo (Mullen 2007:40-47).

**Potomac Yard, 1906-1987**

In the late nineteenth and early twentieth centuries, the Washington, D.C. area became a major point for the transfer of freight between northern and southern rail networks. The railroads carried perishable goods, such as fruits, vegetables, and livestock, from the southern states to urban markets in the North, and transported manufactured goods from northern factories to the South. With multiple rail companies serving each region at the turn of the twentieth century, there was no central location for the transfer of freight between the northern and southern lines (Mullen 2007:47). The situation was particularly difficult in Alexandria, where a significant bottleneck occurred with all these rail lines trying to pass through town. East/west City streets were blocked, as 20 to 30 trains per day came through on Fayette and Henry streets. With the rising volume of rail traffic, the system became increasingly unwieldy, and a movement to beautify Washington took up the cause to get the railroads out of the cities (Griffin 2005).

The solution took shape as an unusual business undertaking, when six competing railroads agreed to band together to construct the rail yard and facilitate the movement of freight between the northern and southern rail lines. Potomac Yard, known as the “Gateway Between the North and the South,” became the largest railroad yard for freight car interchange on the east coast. When Potomac Yard opened on August 1, 1906, it had 52 miles of track that could handle 3,127 cars. The yard grew to a maximum of 136 miles of track crammed into a 2 ½ to 3 mile stretch of land. At its peak, it serviced 103 trains daily (Griffin 2005; Carper 1992; Mullen 2007:47, 49).

The yard was divided into two main areas—a northbound classification yard and a southbound classification yard. In the northbound yard, freight destined for the north came into the yard, was classified and made up into trains for the northern markets. The routine was the same in the southbound yard. Trains would come in, climb what was called the hump, and be directed toward the appropriate track to form outbound trains by the throwing of switches. Initially, gravity took the cars down the hump with brakemen riding on the sides of the cars and manually putting on the brakes (Griffin 2005; Mullen 2007).
While the main function was freight classification, the yard had numerous support buildings and facilities. These included an 800-foot long transfer shed to consolidate freight from cars that were not full, facilities for pit inspection of the cars, a 12-stall round house and engine house for repairs and maintenance, and a 135-foot high coal tipple that could load over 1500 tons of coal per day to satisfy the needs of the steam locomotives. There were also facilities for feeding and resting livestock in transit. In addition, a huge icing facility could service 500 cars of perishable goods per day with ice manufactured by the Mutual Ice Company of Alexandria. As the twentieth century progressed, the yard changed with increased mechanization and the advent of electric and diesel electric trains (Griffin 2005; Carper 1992; Miller 1992; Mullen 2007; Walker an Harper 1989).

To operate the classification yard and associated facilities, Potomac Yard employed approximately 1200 people in 1906 and about 1500 at its peak. Employees included mechanics and carpenters who worked on the rail cars, car inspectors, brakemen, switch operators, and locomotive engineers, as well as clerks who managed the huge amount of paperwork associated with the freight transfer. The work force consisted of both whites and African Americans, but the yard enforced racial segregation in employee facilities. In the early twentieth century, the workers were primarily male, but by mid-century African American women, and perhaps white women, had become part of the labor force (Mullen 2007:49).

The expansion of Del Ray and St. Elmo, which incorporated as the Town of Potomac in 1908, also accelerated as a result of the establishment of Potomac Yard. Many of the white workers at the yard resided in these neighborhoods, but racism limited the options for the black employees, who were excluded from these communities and may have settled in the Parker-Gray district or other African American neighborhoods in town (Mullen 2007:51, 56).

By the 1970s, the heyday of the railroad era began to wane and the need for a classification yard between the North and South lessened. Technological improvements in the rail cars allowed for longer periods of use without maintenance. There was a decrease in the flow of agricultural goods from south to north, and competition from the trucking industry took its toll. By 1987, a decision was made to route freight trains around Washington, and Potomac Yard officially ceased operations (Miller 1992:115). Metro and Amtrak trains still carry passengers through this corridor, and with the development of the linear park, walkers, joggers and bikers will continue to travel the north-south transportation corridor that was first traversed by Native Americans thousands of years ago.
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Appendix IV: Climate Change, Emissions and Energy
Climate Change, Emissions and Energy

What are the Local Impacts of Climate Change?
The Earth’s climate has changed many times during the planet’s history, with events ranging from ice ages to long periods of warmth. Historically, natural factors such as volcanic eruptions, changes in the Earth’s orbit, and the amount of energy released from the Sun have affected the Earth’s climate. While not all scientists agree, evidence indicates that human activities may be accelerating climate by the dramatic increase in man-made GHG emissions. The consensus of the Intergovernmental Panel on Climate Change (IPCC, 2007), the National Academy of Sciences (NAS, 2008) and other scientific organizations is that there is little doubt climate will continue to change in the 21st century and is likely to bring harmful effects across the globe and in particular to people in coastal communities. Climate change will have many kinds of impacts – both positive and negative – and will vary from region to region. In general, the larger and faster the changes in climate are, the more difficult it will be for human and natural systems to adapt.

Assessments have been made of the potential impacts of climate change in the mid-Atlantic region. These impacts can be summarized as follows (MWCOG, 2008):

- Higher Sea Levels ➔ increased flooding and shoreline loss, especially in populated areas such as Alexandria that have seen flooding damage from water inundation and are at greater risk due to sea level rise; salt water intrusion that will degrade both surface and groundwater sources
- Higher Sea Levels ➔ increased flooding and shoreline loss, especially in populated areas such as Alexandria that have seen flooding damage from water inundation and are at greater risk due to sea level rise; salt water intrusion that will degrade both surface and groundwater sources
- Higher Air Temperatures ➔ increased air pollution and health risks, changing plant and animal species, more frequent forest fires.
- Higher Water Temperatures ➔ decrease in some living resources, increase in harmful algal blooms, degraded water quality.
- Changes in Precipitation Patterns ➔ heavier rainfall, flooding, erosion, prolonged droughts, increased pollutant runoff, degraded water quality.

Greenhouse Gas Emissions in the City
In June of 2009, the City completed its first comprehensive greenhouse gas emissions (GHG) inventory report. Community-wide GHG emissions for the selected baseline year of 2005, were approximately 2.6 million metric tons of which the City government operations resulted in approximately 79,820 metric tons of GHGs. As depicted below, the largest sources of GHG emissions in the community are from on-road vehicles at 43%, commercial buildings at 36%, and residential building at 16%. City government’s largest source is the operation of its building stock including schools.
The City adopted the following GHG emissions reduction targets based on the scientific evidence published by the Intergovernmental Panel on Climate Change and its consistency with the Metropolitan Council of Government’s regional GHG reduction goals.

- 2012 Target: Reduce Business As Usual Emissions (BAU) by 10 percent below 2005 levels
- 2020 Target: Reduce BAU emissions by 20 percent below 2005 levels
- 2050 Target: Reduce BAU emissions by 80 percent below 2005 levels

Meeting these targets will present many challenges. It will require implement the sustainable measures in this Plan coupled with the cooperation and enthusiasm of other residents, businesses, and governmental entities.

**Energy Consumption**

Energy consumed in private buildings and homes totaled 11,301,523 million Btu in 2005. The City’s goals are to: 1) reduce per capita energy use 15% by 2015 (about 2.5% per year) and 2) have 50% of the City’s energy portfolio consist of clean, renewable energy by 2030. New developments will be required (when appropriate) to be 30% more energy efficient than the adopted energy code. This may be achieved by installing (1) more effective air sealant, insulation, and leakage prevention; (2) energy efficient fenestration systems; (3) energy star appliances; (4) energy efficient building lighting and streetlights; (5) onsite solar, geothermal, wind, or other renewable energy technology; etc.
Appendix V: Community Outreach
Community Outreach

Potomac Yard Planning Advisory Group
The City began an intensive, 17-month community planning process in October 2008 that resulted in this Plan. On October 14, 2008, the City Council adopted Resolution No. 2297 establishing the Potomac Yard Planning Advisory Group (PYPAG). The City Manager selected 20 individuals to serve on PYPAG, and to represent the diverse interests in the Potomac Yard area. The group was comprised of:

- Residents of surrounding neighborhoods;
- The property owners;
- Members of the business community, including the Alexandria Economic Development Partnership (AEDP);
- The Alexandria City Public Schools;
- Representatives of interest groups such as affordable housing, transportation, the environment, and others; and
- A member of the Planning Commission.

The functions of the PYPAG included:

- Identify and study the issues, challenges and opportunities presented by the redevelopment of Potomac Yard;
- Bring community values, knowledge and ideas into the process of creating a plan that takes advantage of opportunities to improve the area in ways that provide lasting benefit to the local community and the City as a whole;
- Based on the members’ interests, local knowledge, values and ideas, advise City staff on options for the future of the planning area, and assist staff in developing policy recommendations in the variety of subject areas required for a plan;
- Weigh the desirability of a new Metrorail station in comparison to the impacts of the density needed to support it; and
- Keep the public informed about the Potomac Yard planning processes and issues, advising groups the members represent of the progress of the plan and issues raised that are of interest.

The PYPAG met as a group monthly while the plan was being developed (excluding January, and July-September) for a total of 12 PYPAG meetings. In addition, the Plan Principles subcommittee met three times from December 2008 to February 2009, the Transportation subcommittee met four times from
March to August 2009, and the Summer Check-In group met twice in July and August 2009. All the meetings were open to the public and were attended by neighborhood citizens and other interested parties. In addition to these meetings, a number of PYPAG members participated in a tour of the site and surrounding neighborhoods in November 2008.

Topics covered at the various PYPAG meetings and PYPAG subcommittee meetings included:

- Site influences and opportunities;
- Planning best practices;
- PYPAG mission and plan principles;
- Circulation, connectivity, and neighborhood impacts;
- Metrorail station locations;
- Land use, massing, and height;
- Open space network;
- Sustainability; and
- Civic Uses.

### List of PYPAG Meetings and City Work Sessions
#### Engaging the Greater Community

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All PYPAG and PYPAG subcommittee meetings were open to the public, and were advertised to the greater community on the City web site and by means of the City news bulletin (eNews), to which users can subscribe for free on the City web site. Materials from each meeting were posted on the City web site.

The City held two community workshops. The first community workshop was held on a Saturday in January 2009. During this workshop, the community discussed the Plan Principles and overall themes, and participated in a design exercise in which the concepts of connections and streets, the open space network, and land use and amenities were discussed. A second workshop was help in October 2009. This workshop, which was hosted by the PYPAG, commenced with an open house, followed by two rounds of breakout conversations concerning Transportation and Neighborhood Impacts; Open Space, Civic Uses and Housing; and Site Planning and Sustainability.

In addition, City staff met with civic leaders and associations throughout the community planning process, specifically in the neighborhoods of Rosemont, Del Ray, Lynhaven, and Northeast. In addition, individual PYPAG members were responsible for reporting back to their respective boards and associations. Many associations also prepared Potomac Yard-related articles in their newsletters, and provided their memberships with Potomac Yard meeting announcements.

**List of Greater Community Meetings**

**Potomac Yard Metrorail Station Feasibility Work Group**

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Although separate and distinct from the Potomac Yard small area community planning process, the work of the parallel Potomac Yard Metrorail Station Feasibility Work Group was integral to and informed this process. Three members of PYPAG also served on the Potomac Yard Metrorail Station Feasibility Work Group. A total of five Potomac Yard Metrorail Station Feasibility Work Group meetings were held from February to November 2009. Additional information concerning the Potomac Yard Metrorail Station Feasibility Work Group can be found in *Appendix 2: Context for Plan.*
List of Potomac Yard Metrorail Station Feasibility Work Group Meetings

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Appendix VI:
Summary of Recommendations