

Guiding Themes and Strategies

The city of Washington—conceived, planned, and built as the urban expression of a new nation—has a form strongly linked to our nation’s principles. Some of these principles first embodied in the L’Enfant Plan, have guided two centuries of planning for the city. Other principles, have emerged from the issues of each subsequent planning era. These include the monumental architectural vision of the McMillan Plan, and the *Legacy Plan’s* modern vision to protect the landscape of the National Mall and integrate federal buildings and commemorative works into the capital city. The *Reimagining Washington’s Monumental Core: Framework Plan* respects these fundamental principles of past and present, and aims to address the paramount planning issue of our time: the environmental, economic, and social sustainability of human habitation.

In guiding the future development of central Washington, the *Framework Plan* promotes livability

and sustainability—achieving what can be referred to as “sustainable urbanism.” It proposes destinations that are consonant with the underlying design of the city; makes both visual and physical connections to these destinations; promotes livability through the treatment of public space and compact land use and transit to encourage a high-quality walkable urban environment; and integrates sustainable practices in all aspects of future development.

Sustainability is a comprehensive approach to balance the needs of the built and natural environment. It is engaging the creative efforts of people around the world, encompassing economics, livability, social justice and stability, and ecological protection, as well as physical design. The *Framework Plan* emphasizes sustainable urbanism to improve human health, safety, and quality of life; to conserve non-renewable resources; and to support a healthy and lasting environment.

The specific actions and interventions proposed in the *Framework Plan* were informed and guided by a series of themes, each with supporting strategies.

- Celebrate the City as Symbol
- Overcome Barriers and Improve Connections
- Encourage Compact, Mixed-Use Destinations
- Strengthen the Public Realm
- Facilitate Transit Use and Public Mobility
- Advance Sustainability in the Urban Environment

Washington’s iconic urban form and skyline are recognized around the world as symbols of American democracy. Based on the seminal 1791 L’Enfant Plan, the urban form of Washington has developed through two centuries. It has been subjected to comprehensive elaborations, most notably in the Senate Park Commission Plan (McMillan Plan) of 1901 and the *Extending the Legacy Plan* of 1997. These plans are not only noteworthy for the unique contributions they have made to Washington’s rich planning history, but also for their dedication to preserving and advancing the design principles of the L’Enfant Plan. The *Framework Plan* embraces the heritage of these plans and promotes their principles to ensure that newly created destinations are successfully integrated into Washington’s symbolic iconography.

L’Enfant’s masterful combination of a street grid overlaid with a composition of symbolic nodes, radial avenues, and monumental views emphasized by the natural topography has resulted in a physical embodiment of our country’s democratic ideals of freedom, openness, equality, and opportunity. To a remarkable extent, these visual and physical relationships have been preserved and amplified, most notably with the grand monumentality of civic and commemorative architecture envisioned in the 1901 McMillan Plan, and the equitable distribution of civic assets as envisioned by the 1997 *Extending the Legacy* plan.

The *Framework Plan* honors these historic plans and retains the symbolic structure of the city. It recommends strategies to create, reclaim, strengthen, and preserve historically significant views, vistas, and axial relationships, particularly along important L’Enfant streets and from locations

with views toward nationally significant landmarks. The *Framework Plan* focuses on redefining and improving several corridors, to enhance the perceived connections between the National Mall, downtown, commemorative sites, and the waterfront.

Several of the underlying principles of the *Framework Plan* are dedicated to preserving and restoring Washington’s many cultural, historic, and architectural assets and civic spaces. The *Framework Plan* proposes to restore important elements of the L’Enfant Plan that have been lost over time, often to the insertion of large-scale intrusions. It recognizes that significant buildings and commemorative works must be approached comprehensively and that the location of these elements must contribute to the organizing principles of our city, our democracy, and the evolving national narrative.



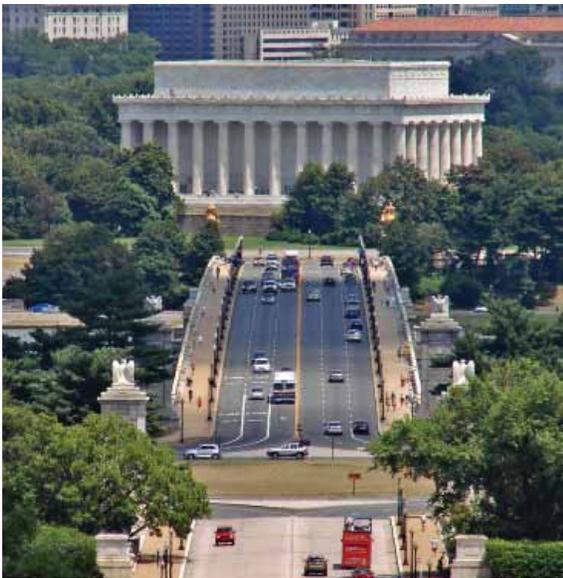
“The positions for the different Edifices, and for the several Squares or Areas of different shapes, as they are laid down were first determined on the most advantageous ground, commanding the most extensive prospects.”

- Pierre L’Enfant

Strategies

The *Framework Plan* proposes several strategies to elevate key urban design elements of the L’Enfant Plan, create new visual connections, and facilitate the movement of pedestrians through the National Mall and the monumental core to new and existing destinations.

1. **ENHANCE VIEWS AND SYMBOLIC RELATIONSHIPS** to promote continuity in the historic design of the nation’s capital. As also recommended in *Extending the Legacy*, the *Framework Plan* reinforces the U.S. Capitol as the symbolic center of Washington and the monumental core. Natural and designed views and vistas that are an integral part of Washington’s image should be protected and enhanced. The reciprocal views along monumental corridors, avenues, and grid streets should be used to create focal points that establish connections and facilitate pedestrian flow.
2. **RESTORE HISTORIC SQUARES, STREETS, AND ORIGINAL RIGHTS-OF-WAY** to reclaim streets and reservations that have been disrupted or closed. Protect the visual openness and functional qualities of the L’Enfant Plan rights-of-way by embellishing avenues and streets with monuments, fountains, and public art that establish axial views and symbolic points of reference. Provide and maintain street trees to help frame axial views and reinforce the park-like character of the nation’s capital.
3. **DEDICATE THE MOST PROMINENT DEVELOPMENT SITES FOR PRIMARY CIVIC ASSETS** to support and advance the design approach of the L’Enfant Plan. Public buildings, museums, memorials, and other cultural assets should be distributed to appropriate locations throughout the city. Important sites in the city’s physical framework of major axes, connecting streets, reservations, scenic overlooks, and prominent termini should be given special consideration.
4. **PROMOTE VISUAL CONNECTIONS TO THE POTOMAC AND ANACOSTIA WATERFRONTS** to reinforce the relationship of the monumental core to its natural resources. The geographic location of the city at the confluence of two rivers should be recognized and strengthened. The prestige of the National Mall as a setting for commemorative elements should be extended northwest toward Rock Creek; southward to the Washington Channel; eastward to the RFK Stadium site; and southeast toward Anacostia and the Saint Elizabeths Campus. In addition, the visual relationships between the waterfront and the topographic bowl that surrounds Washington should be protected and intensified.



COURTESY OF HELEN BETTS

Washington is known for its symbolic views and vistas.



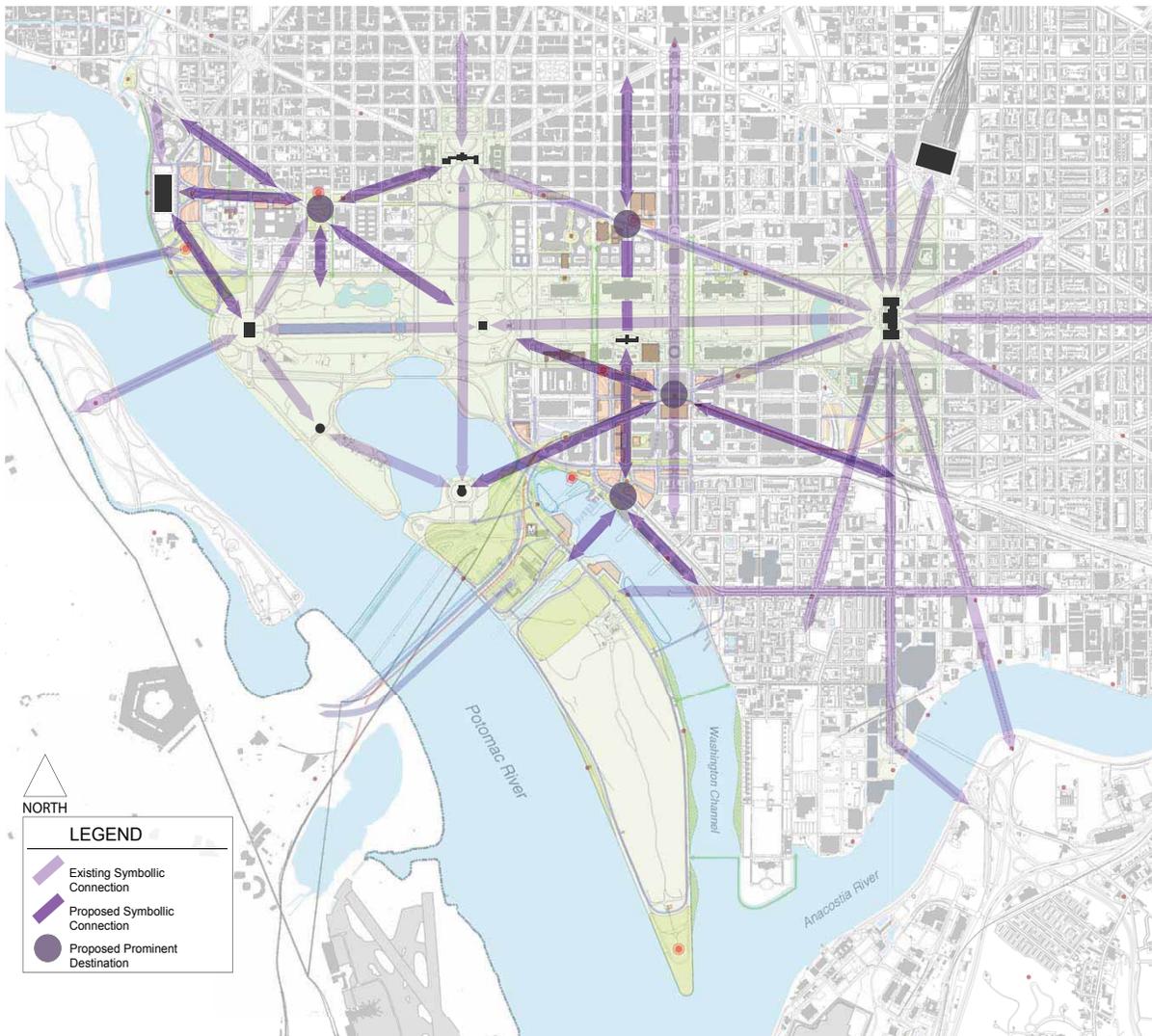
COURTESY OF HELEN BETTS

Engaging public spaces and pedestrian friendly connections should be provided along key streets.



NCPFC

Trees framing prominent corridors reinforce the monumental core's park-like character.



NCPFC/CFA

Illustration of the central cross-axial relationships of the National Mall and symbolic views and vistas in the monumental core.

Urban Design Opportunities

The *Framework Plan* develops symbolic relationships by:

- Creating new locations of prominence and grandeur
- Elevating the significance and accessibility of existing destinations
- Establishing symbolic connections between emerging destinations
- Restoring L'Enfant vistas, streets and avenues

While the federal city is home to the country's most treasured symbols of democracy, the important precincts surrounding the Mall have been diminished by barriers that cause these areas to appear isolated, inaccessible, and neglected. Many of these disruptions to the fabric of the city are associated with transportation infrastructure, beginning with the insertion of the railroad along Maryland Avenue, SW. The post-World War II era in Washington brought even greater impositions, including interstate highways cutting through the city and the "spaghetti bowls" of high-speed access roads that connect freeways and bridges. In this same period, the federal government imposed mega-block buildings, some of which span or even block historic rights-of-way and significant vistas.

These physical and psychological barriers isolate the National Mall and its monumental setting from the surrounding city and the waterfront. Clusters of single-use, large-scale office buildings are abandoned outside of working hours, and the lack of ground floor activity and public space programming creates a desolate urban landscape devoid of street life. Poorly maintained public spaces collect debris and are unfriendly to pedestrians and roaring trafficways present impediments to walking between the National Mall and the waterfront, making it unpleasant or impossible to reach the shore. Collectively, these conditions contribute to an unfriendly pedestrian experience, undermine the importance of civic spaces, and discourage serious consideration of

these areas for the placement of future museums, memorials, or other development.

The *Framework Plan* proposes a walkable city that restores the interconnection of the National Mall with the waterfront and the living fabric of the surrounding city by eliminating barriers caused by highway, bridge, and rail infrastructure, broken street grids, and "dead zones" of monotonous office facades. These new connections support the transformation of degraded or inaccessible areas into new destinations that extend the quality and beauty of Washington's most successful public spaces. In addition, connecting the city to the waterfront offers an enormous opportunity to develop green corridors that improve the ecological systems in which we live.



Strategies

The *Framework Plan* proposes several strategies to overcome barriers and improve connectivity between the National Mall, the city, and the waterfront.

1. **REDUCE THE IMPACT OF TRANSPORTATION INFRASTRUCTURE** to restore the grid of streets and avenues, promote continuity of pedestrian access, and contribute to a sustainable urban environment. High-speed roadways and rail lines should be decked over, and road, bridge, and rail infrastructure should be relocated if possible, to maximize opportunities to create high-quality, pedestrian-friendly public spaces and increase access to the riverfront. New development on air-rights parcels or on underused lots adjacent to transportation corridors should be considered as potential building sites. This would increase the amount of developable urban land and help define and restore a well-designed streetscape.
2. **ELIMINATE VISUAL OBSTRUCTIONS AND RESTORE CORRIDORS** to improve primary and secondary physical connections. In specific locations where historic axes and public spaces have been disrupted by barriers – such as construction spanning or occupying historic street rights-of-way – these unfriendly insertions should be redeveloped or redesigned in a way that supports the continuity of the urban fabric. Where existing but undervalued corridors exist, the public space should be redesigned to maximize its potential as a contributing element to the nation's capital, such as a place for commemoration, recreation, or the setting for federal office buildings.
3. **REMOVE PSYCHOLOGICAL BARRIERS** to improve the condition of the public realm and create walkable, pedestrian-friendly linkages within and among neighborhoods, work places, and visitor destinations. Streetscapes should be improved to include shade, seating, adequate lighting and clear way-finding to enhance the pedestrian experience. Long blocks where there is an absence of ground-floor activity or an over abundance of loading facilities should be redesigned to include a mix of retail, commercial, or cultural uses to strengthen economic vitality, improve safety, and infuse vibrant street life.

“Designing a dream city is easy. Rebuilding a living one takes imagination.”

- Jane Jacobs



NCPC

Rail lines along Maryland Avenue, SW disrupt the street grid, causing a void of city life between downtown and its waterfront.



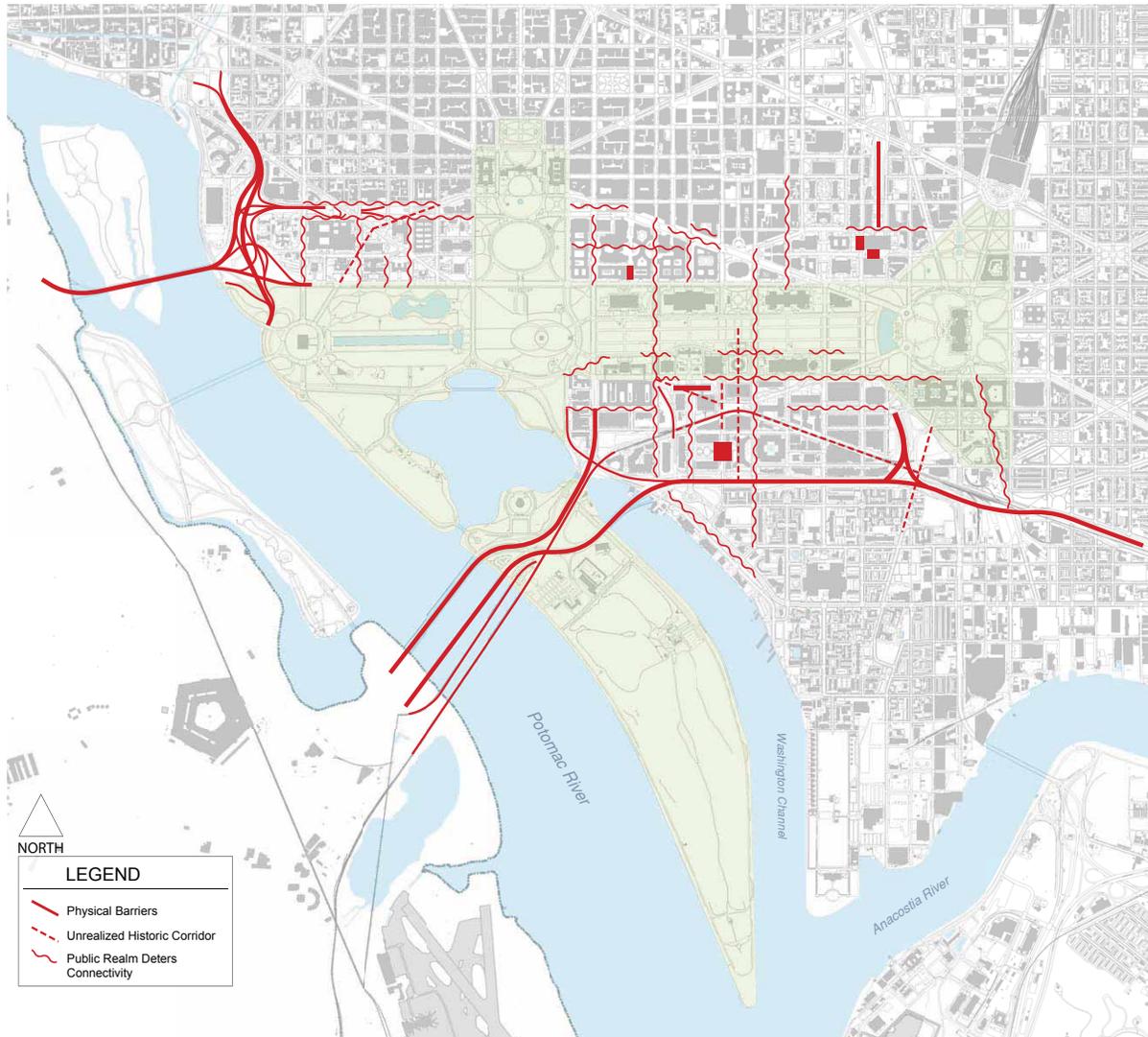
NCPC

Highways prevent easy access to the waterfront, separating the Kennedy Center from the rest of the city.



EDAW

Visual and physical barriers, along with a lack of amenities deter new development and pedestrian activity on 10th Street, SW.



NCPC/CFA

Illustration of existing barriers, including freeways, bridges, rail lines, and buildings that limit connections.

Connection Opportunities

The *Framework Plan* overcomes barriers to connectivity by:

- Redesigning inefficiently developed city blocks
- Removing building obstructions
- Decking over intrusive highways and infrastructure
- Bridging expansive waterways
- Beautifying and enlivening the public realm

The concentration of federal agencies is a foundation of Washington’s economy and integral to the symbolic nature of the capital city. Yet, despite the stability provided by the federal workforce, large single-use districts and mega-block complexes dedicated to federal offices often detract from the urban quality of the city and create an environment that can be unwelcoming to workers, residents, and visitors during the day and empty in the evening.

Concentrated development, with a diverse mix of uses served by transit and balanced with open space, is a central component to achieving a livable city—a city that is economically, socially, and environmentally sustainable. With its form-defining height restrictions and urban density, Washington benefits from compact development; efficient use of land, resources, and services; a wide range of transit options that reduce congestion, conserve energy, and support walkability; and economic diversity and neighborhood vitality that stimulate social life and activity. However, because land use patterns are not consistent across downtown Washington, the *Framework Plan* promotes accessible, compact, mixed-use neighborhoods integrated with an enhanced public realm.

To help establish new destinations, the *Framework Plan* suggests that several federal office sites be considered for future museums and that some street-facing ground floors incorporate a mix of uses. Any resulting loss of federal buildings or decrease in federal office space would be offset by increasing buildable area through infill development and redevelopment opportunities. The *Framework Plan* protects federal ownership of land and buildings and promotes retaining or increasing the federal agencies’ employment base in the District of Columbia in locations appropriate to their mission.

Proposals to reprogram historic buildings, redevelop particular properties, or realign infrastructure range in complexity and will require detailed feasibility studies to evaluate the specific impacts, costs, and benefits of each option and potential location. Redevelopment of key facilities may be appropriate when a building no longer adequately supports the mission of its occupants or fulfills its optimal functions, or where the cost of modifying the building to upgrade or meet new needs may be excessive. Adaptive reuse and reprogramming of historic properties must be carefully evaluated to determine the appropriate treatment when accommodating a new use.

Infill and redevelopment strategies will enable underutilized sites to be used to their full capacity, will provide opportunities to increase federal office space and private-sector uses, and will help achieve sustainable, compact, mixed-use neighborhoods. A complete urban fabric can be restored by reclaiming symbolic corridors, repairing street grid connections, and creating walkable precincts. Buildings themselves can reestablish a human scale by including ground floor retail uses in conjunction with safe public access. Decking highways can create new opportunities for private mixed-use development without reducing federal ownership in the precincts.

Strategically locating federal buildings and cultural uses to anchor new destinations, together with a mix of ground-floor uses and a variety of ceremonial and commercial activities in the area, will extend the civic qualities of the National Mall and the vibrancy of the city along several spines originating from the Mall and the U.S. Capitol. This will make these areas more desirable places to work and visit, and provide highly visible reminders of the federal government at work.



Strategies

The *Framework Plan* proposes several land use and development strategies to improve areas near the National Mall.

1. **DEVELOP UNDERUSED AND AIR-RIGHTS PROPERTIES** to promote compact development integrated with public open space. Infill development should be promoted on underused federal lands and surface parking lots to increase development density. Depressed highways and rail lines should be decked over to create developable areas for office (federal or private), residential, hospitality, and cultural development and to reclaim parks, parkways, and multi-purpose open spaces. Strategically located sites should be redeveloped to re-establish physical and symbolic connections and improve the mix of uses. Parking should be limited and provided under new buildings in lieu of surface lots.
2. **PROMOTE MIXED-USE DESTINATIONS** to facilitate transit-oriented development without reducing available federal office space. Reprogram or adaptively reuse strategically located historic buildings to create cultural destinations that are symbolic anchors within the monumental core. An appropriate percentage of ground floor space should be reprogrammed for retail, visitor services, or cultural and educational uses to encourage complete neighborhoods and create safe, economically viable and vibrant street life. Proposed residential development should include a number of affordable units. Where vertical integration of uses within a given building is not possible, uses should be mixed horizontally among multiple buildings within a destination area.
3. **REINVENT CIVIC CORRIDORS AND URBAN SPACES** to promote livability. Public spaces, particularly at the street level, should be programmed to support workers, visitors, and residents. The physical design of the street — from pedestrian-friendly, ground-floor space to the character of the sidewalks, medians, and rainwater collection systems — should be emphasized to reinforce walkability. Public spaces should be designed in a manner that relates to important cultural landmarks and maximizes connections to public transit.

“As our case is new, we must think and act anew.”

- Abraham Lincoln

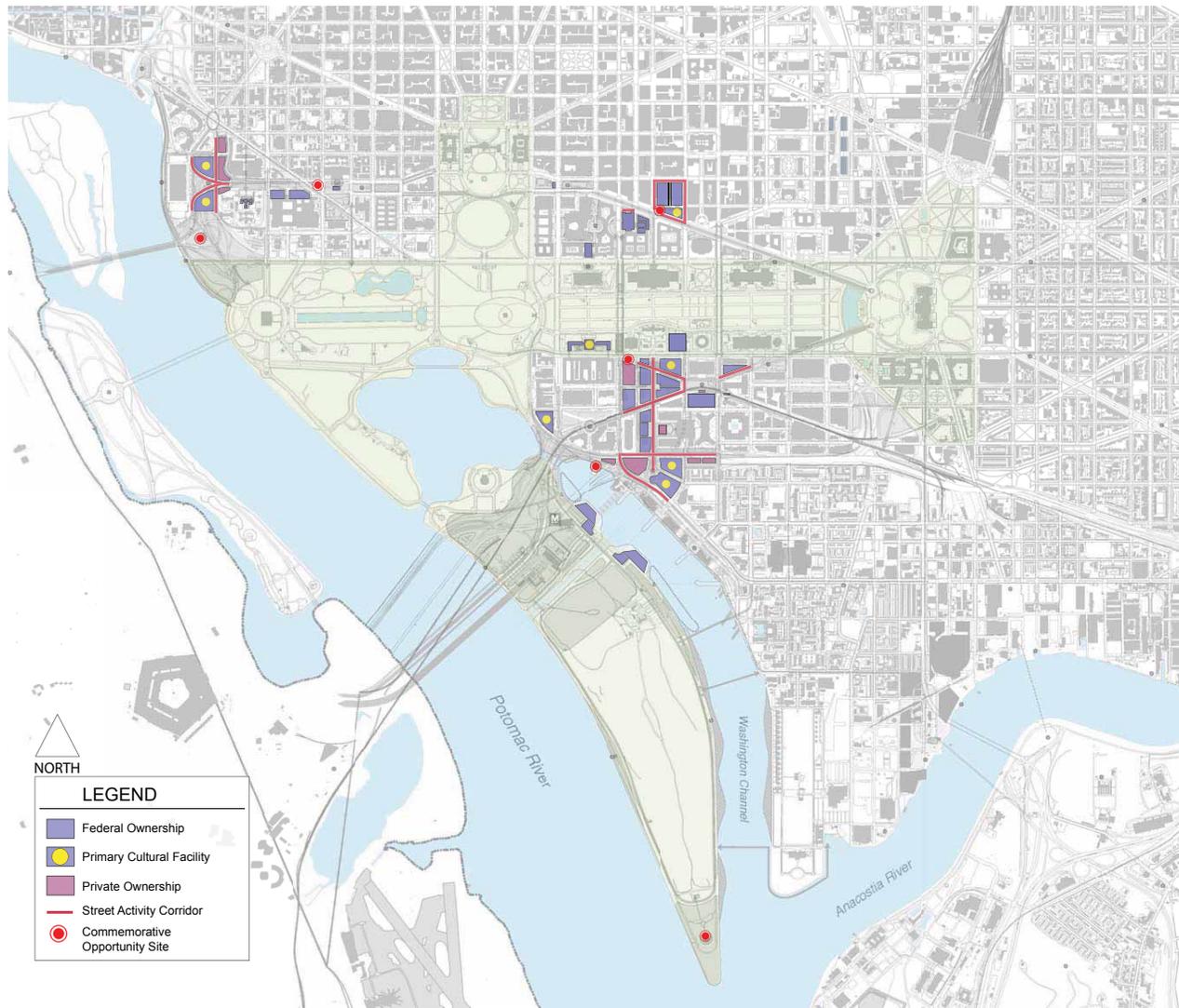


PHOTO BY CAROL M. HIGHSMITH, COURTESY OF TRAMMEL CROW COMPANY

Market Square merges an active commemorative landscape with mixed-use development along an important symbolic corridor.

Elements of a Great City

Beautiful urban landscapes and functional buildings are key components to achieve a cohesive public realm that welcomes pedestrians and allows for civic engagement and social interactions. Market Square, which includes office, residential, and retail uses, the 8th Street axis, and the U.S. Navy Memorial, is one example of a successful urban place that achieves these objectives. It is a memorable and flexible space that offers an opportunity to rest, listen to music, eat, read, or just watch the passing scene.



NCPC/CFA

The proper mix of new cultural sites with public and private activities will establish and link important destinations.

Land Use Opportunities

The *Framework Plan* identifies infill, redevelopment, and reuse opportunities that will create a more vibrant center city and accommodate growth by providing opportunities for:

- More than 2 million square feet of space for museums and other cultural attractions
- More than 1 million square feet of new space for federal offices, strengthening the monumental core as the seat of national government and the center of federal employment
- More than 2 million square feet of space for private development, contributing to the city's economic vitality
- At least 6 new commemorative sites in prominent locations

Images of signature public spaces, such as Pennsylvania Avenue, the Reflecting Pool, and the Tidal Basin shoreline have become defining features of our nation's capital. Their grandeur and intimate beauty demonstrate the significance of the ideas they commemorate and the institutions they connect. However iconic, these spaces are individual works of art, separate from the city, lacking strong linkages to the residents, employees, and visitors of central Washington. Within the areas adjacent to the National Mall, barriers block circulation between destinations, missing sections of streetscape interrupt intuitive travel, wayfinding can be circuitous, and the lack of pedestrian amenities can deter people from visiting emerging commercial, entertainment, recreational, and cultural destinations.

A strengthened public realm system can alleviate these constraints. The locations with the potential for

national significance and civic vitality should be linked together by a continuous series of high-quality parks, plazas and streetscapes. This integrated open space network should provide activities appropriate to the people using it. It should create compatible relationships with adjoining land uses, provide for recreation and leisure, facilitate commuting, encourage sight seeing, and establish a walkable sequence of inviting experiences.

The public realm should be distinguished and accessible, with an enduring quality shaped by beautiful infrastructure, architecture, streets, parks, and waterfronts that meet the highest standards of design, construction and maintenance. To create an inviting atmosphere and energize the public realm, public spaces should be programmed and provide amenities for pedestrian safety and comfort

including: shaded seating and furnishings that encourage conversation and people watching; water features to cool hot temperatures, muffle noise, and allow contemplation; appropriate lighting to improve perceived safety; consistent wayfinding information; and access to restrooms and refreshments. Landscape features and plantings provide seasonal interest and delight. Interactive public art, interpretive exhibits, and learning opportunities should be encouraged to add another layer of human engagement within the public realm.

The open space network should accommodate the recreation needs of visitors, workers, and residents alike. Flexible spaces should be provided to increase the capacity for active and passive recreation, thereby supporting improved public health, as well as offering opportunities for special events.



COURTESY OF LOREN KAHLE, LORENKAHLE.COM

“The measure of any great civilization is its cities and a measure of a city's greatness is to be found in the quality of its public spaces, its parks and squares.”

- John Ruskin

Strategies

The *Framework Plan* includes several strategies for strengthening the public realm throughout the monumental core.

1. **EXTEND THE PREMIUM QUALITIES OF THE NATIONAL MALL** to enhance the significance of emerging destinations. The special character of the National Mall is derived from a number of design concepts beyond the composition of a monumental landscape. Simple geometric forms and landscape elements are carefully arranged to create spaces, frame dramatic vistas, and create contrast and emphasis. Similarly, the juxtaposition of formal and romantic landscapes has a dynamic appeal, the rhythmic placement of trees and furnishings creates an ordered sense of movement and orientation, and the use of durable, authentic materials conveys lasting strength and beauty. All of these techniques should be used, in appropriate balance, to create significant public spaces within the urban fabric.
2. **CREATE AN INTERCONNECTED OPEN SPACE NETWORK** to establish walkable linkages among parks, plazas, circles, and squares within the city, including a continuous trail from Georgetown to the U.S. National Arboretum. This open space network should emphasize and celebrate L'Enfant's plan and Washington's location nestled within the topographic bowl at the confluence of the Potomac and Anacostia Rivers. It should include elements that reinforce the relationship between natural systems in an urban context, particularly mature tree canopies, expansive green spaces, the rivers, and the rise of the surrounding hills.
3. **PROVIDE MULTI-PURPOSE SPACES** to accommodate events and recreation. With finite land resources and the need to increase capacity for active and passive recreation as well as to provide additional locations for public gatherings, the *Framework Plan* supports creating new places and improving access to existing venues that support multiple uses. Open areas can be flexibly configured with moveable equipment to support formal tournaments, local sports leagues, and informal games of varying scale and intensity. Flexible spaces can be managed to allow more frequent rotation or longer regeneration time following heavy use. The ability to configure a space to meet a range of needs can reduce habitual wear and efficiently use the District of Columbia's valuable open space resources.
4. **DESIGN GREAT STREETS** to safely accommodate all users equally, including pedestrians, bicyclists, transit riders, and motorists, in a beautiful setting. This involves providing inviting and continuously accessible sidewalks, reducing curb cuts, incorporating transit infrastructure, employing traffic calming measures, and reducing conflicts between pedestrians and vehicles.



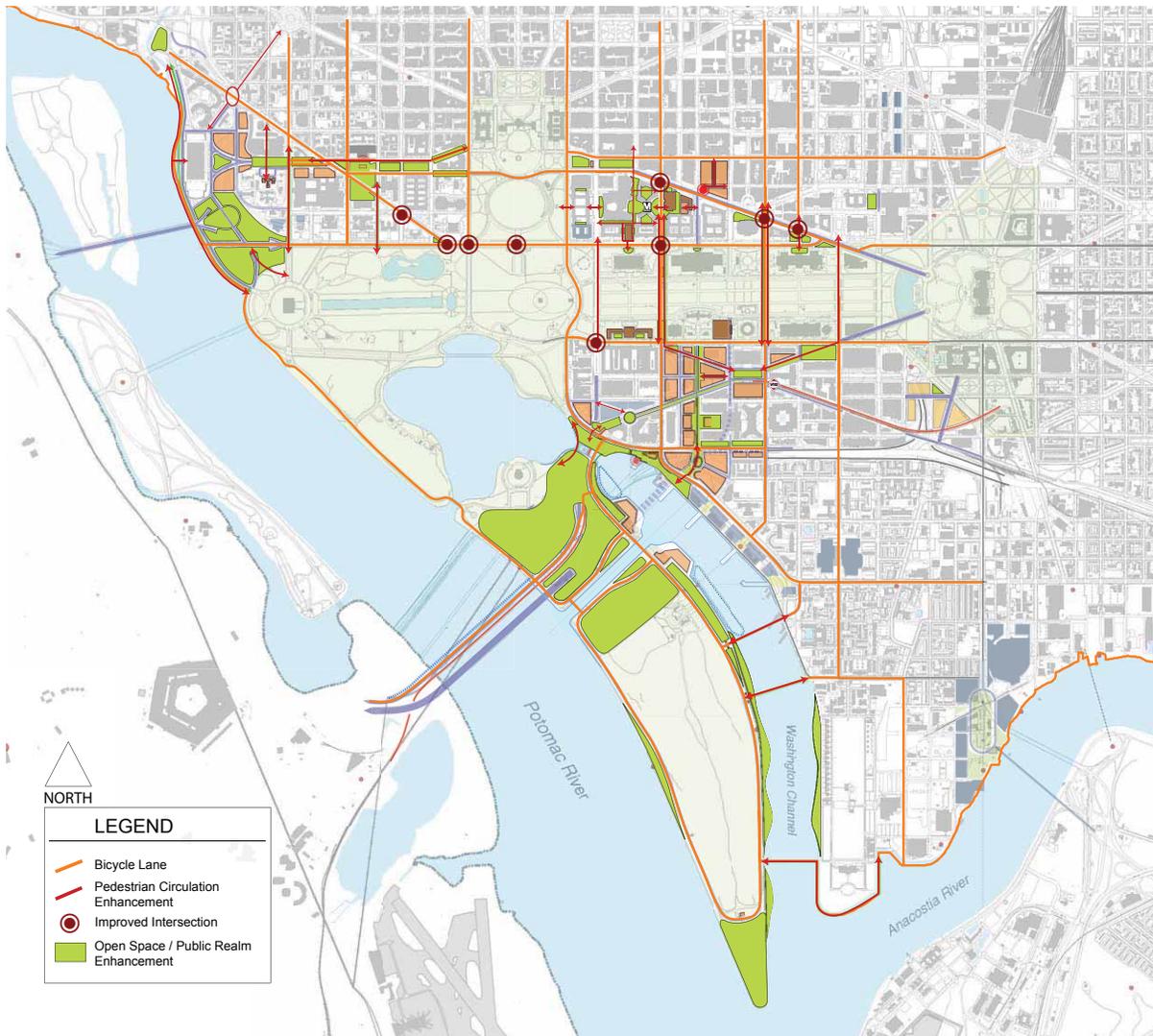
Active, walkable streets can be destinations themselves.



An inviting public realm contributes to livability.



Open spaces and recreation fields can serve multiple purposes.



A connected system of pedestrian friendly open spaces, walks, and trails will establish a distinguishable, comfortable, and accessible public realm.

Public Realm Opportunities

The *Framework Plan* strengthens the public realm by:

- Creating 75 acres of waterfront open space
- Reclaiming 32 acres of flexible event and recreation areas
- Identifying 13 acres for new urban parks and plazas
- Improving 10 miles of pedestrian corridors
- Linking 27 miles of bicycle lanes and paths
- Creating a seamless riverwalk from Georgetown to the U.S. National Arboretum

After a long period of disinvestment, public transit is undergoing a renaissance in the United States. Cities are recognizing the need to become less auto-centric and are seeing the advantages to investing in comprehensive, convenient, and flexible public transportation systems. Extending these systems to underserved or depressed areas can spur economic development and provide employment opportunities by improving mobility for the poor and the physically challenged, as well as the elderly and visitors. Public transit supports compact development and is an essential element for a walkable, welcoming, and friendly city. It is a critical component in reducing our dependence on fossil fuels and nonrenewable energy sources, reducing air pollution, increasing public health and safety, and promoting more livable and sustainable cities.

Washington enjoys one of the finest public transit systems in the world. Metrorail is the second busiest subway system in the country, with more than 700,000 per average weekday. In addition, the DC Circulator offers premium cross-town bus service between employment centers, residential neighborhoods, and visitor destinations, with transfer points to Metro and other bus lines. The city has one of the most popular car sharing programs in the country, and in 2008 it initiated a citywide bike sharing program. As a result of these programs and services, Washington has one of the lowest car-ownership rates in the country.

However, Washington's transportation system can still be improved to fill gaps in the transit system,

and expand alternative modes of transportation to underserved parts of the city. A significant gap is the current lack of transit service to and around the National Mall and Potomac Park. As a destination for more than 25 million visitors a year, this challenge must be solved with a system that is integrated and coordinated with the rest of the city. The *Framework Plan* recognizes the need for system improvements to serve the needs of the workers, residents, and visitors traveling to and around the city, as well as to and around the National Mall. The *Framework Plan* calls for enhancements throughout the monumental core to improve transportation choices and to encourage workers, residents, and visitors to leave their automobiles behind.



COURTESY OF MARCUS KRISHETIA

“Beyond the functional purpose of permitting people to get from one place to another and to gain access to property, streets - most assuredly the best streets - can and should help to do other things: bring people together, help build community, cause people to act and interact, to achieve together what they might not alone.”

- Allen Jacobs

Strategies

The *Framework Plan* includes several strategies to improve public transportation service.

1. **ENCOURAGE ENVIRONMENTALLY SUSTAINABLE TRANSPORTATION ALTERNATIVES** to minimize harmful emissions and increase transit choices. Even a robust public transportation system will not eliminate private vehicles and associated carbon emissions. Private vehicle use can be minimized by managing parking capacity, as recently proposed by the District, and by increasing car sharing and transit availability. Emissions should also be reduced by encouraging the use of hybrid and alternative-fuel private and commercial vehicles, through initiatives such as preferred parking spaces or battery recharging stations on public streets. Public transit emissions, particularly in sensitive areas such as the National Mall, should be reduced by using hydrogen fuel cells, hybrid and electric power, and other emerging technologies.
2. **SUPPORT A MULTI-MODAL TRANSIT SYSTEM** to improve accessibility and connectivity in the monumental core. This should include improved connections between regional and local transit as well as between different modes of transportation, for example at a new VRE station and multi-modal transportation center south of the National Mall. These improvements will increase transit use and efficiency, and will better serve the needs and schedules of tourists, residents, and the local work force. Universal access to public transit can be accomplished through improved design and by offering low-cost fares for low-income riders. All buildings and public spaces should be served by a connected network of public transit within convenient walking distance. To accomplish this goal, Circulator service should be expanded; new Metrorail stops and entrances should be added; and streetcar, bus rapid transit, and water taxi service with transfer points to existing transit modes should be implemented. The design of the infrastructure and ancillary facilities to support this expanded transit system must be sensitive to the historic context and urban design framework of Washington. Most importantly, transit service and additional modes of transportation should be provided on the National Mall and in Potomac Park. This should include transit with frequent hop-on, hop-off service to all the major destinations and small-scale supplemental services to destinations with less demand or more environmentally sensitive settings. The supplemental services could include bicycle paths and rentals, walkable corridors, and small-scale transit vehicles that minimize environmental impacts while improving accessibility.
3. **PROMOTE BICYCLE USE** to increase mobility and reduce dependence on motor vehicles. One of the healthiest and most sustainable modes of transportation is riding a bicycle. Beginning with its 2005 *Bicycle Master Plan*, the District has promoted safe and convenient bicycle use throughout the city. The most recent contribution to this effort is the 2008 SmartBike system of short-term bicycle sharing. To improve and increase use, convenience, and safety, the existing network of bicycle routes and trails should be enhanced with improved signage and bicycle storage as well as the creation of dedicated bicycle lanes separated from the main roadway wherever possible. Additional public space for the bicycle sharing program and for visitor bicycle rentals should be reserved near transit points and major tourist destinations, including at the Metro stops on or near the National Mall.



NCPC

The DC Circulator, a new premium bus service is popular with residents and visitors.



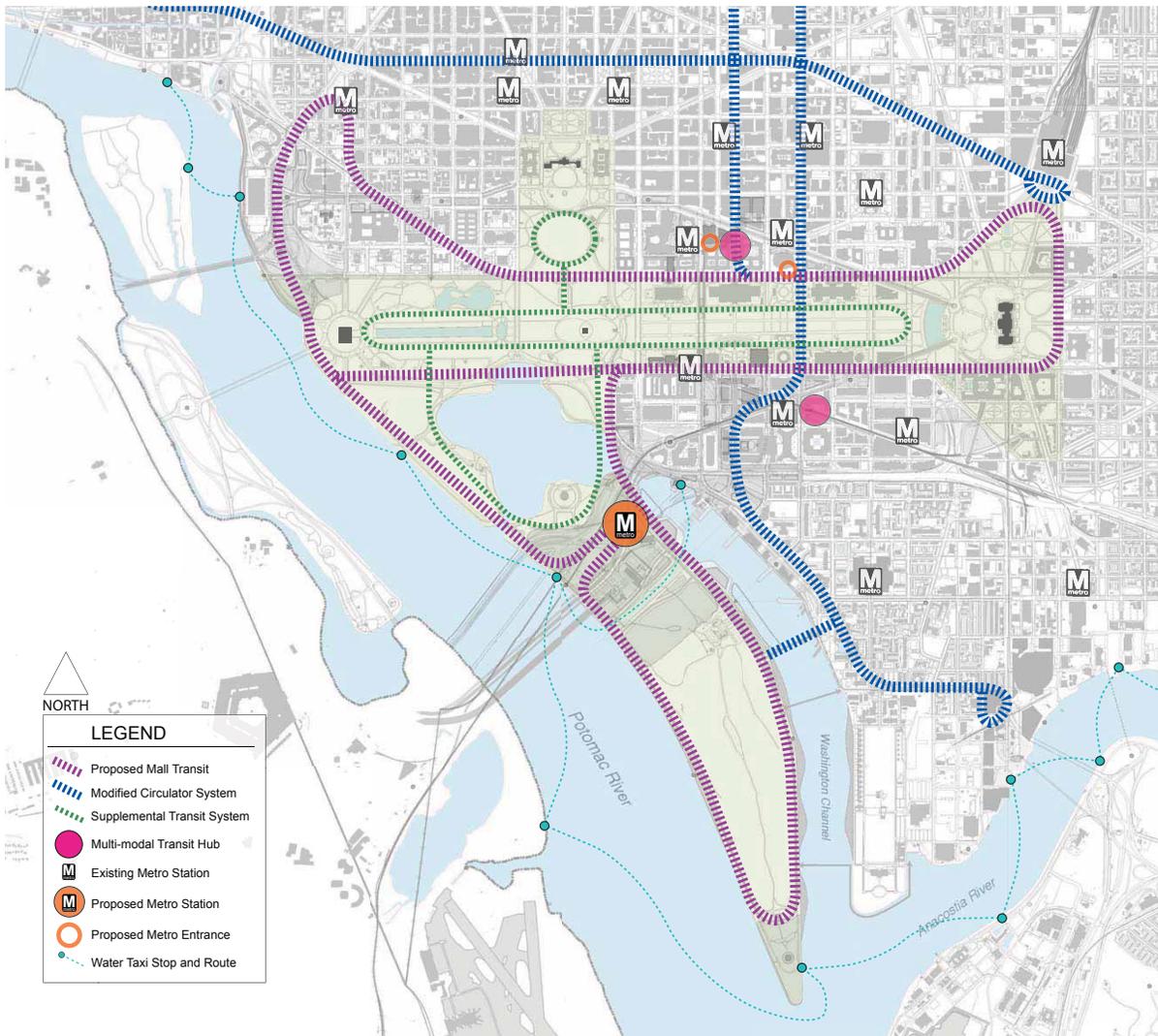
EDAW

SmartBike DC, an innovative bicycle sharing program, offers a sustainable way to move about the city.



COURTESY OF CREATIVECOMMONS.ORG

Water taxi service can help connect waterfront destinations.



NCPC/CFA

Transit Opportunities

The *Framework Plan* promotes better and more sustainable forms of public mobility by:

- Creating a new Metrorail station and enhancing access at other stations
- Expanding transit routes to better connect emerging destinations and attractions on and near the National Mall
- Improving access on the National Mall by means of a small-scale transit system
- Enhancing multi-modal transportation hubs
- Providing additional bicycle sharing locations
- Encouraging an extensive water taxi network

Expanding and coordinating alternative modes of transportation will improve mobility for all.

Cities around the world are faced with interrelated challenges and opportunities associated with growth, development, and resource management. The density, compactness, and scale of cities provide for efficient use of land, infrastructure, and services; however, urban areas also consume a large share of the world's resources. Urban challenges are further complicated by the effects of global climate change, such as sea-level rise, drought, and heat waves. The *Framework Plan* seeks to ensure that Washington does not merely grow, but develops sustainably, in a manner that meets the current generation's needs without compromising those of future generations.

Fortunately, Washington possesses the critical components of a sustainable city: a compact urban form served by a multi-modal transit system; a diverse and stable economy anchored by the federal government and tourism; an expansive public park system comprised of diverse ecosystems; and perhaps most important, federal and local leadership committed to a more sustainable capital

city. Washington has one of the highest levels of green building practices and regulations in the country. The U.S. General Services Administration, which oversees new construction and renovation of federal properties, seeks to incorporate sustainable design principles and energy efficiency measures into all of its building projects, and recently, Congress mandated that new and existing federal buildings must achieve zero fossil fuel use by 2030. Non-federal buildings in Washington are also going green. In 2006, Washington became the first major U.S. city to require compliance with the U.S. Green Building Council's LEED programs for public construction, with phase-in requirements for private construction by 2012. These efforts are driving a new industry of green collar jobs centered on the research, installation, and maintenance of green infrastructure, high performance building systems, and sustainable landscapes.

Washington, like other cities, must solve complex local challenges to be truly sustainable. As an older city, much of Washington's infrastructure is antiquated, and some of it is insufficient to meet the service demands of

the city. Specifically, Washington's water and sewer system requires major investment to comply with federal water pollution control regulations, eliminate combined sewer overflow events, and control the risk of large-scale flooding, as experienced in 2006. The internal flooding risk is compounded by the low-lying elevation and high water table of the monumental core and its proximity to the confluence of two rivers, making it susceptible to overbank flooding and placing a portion of the monumental core within the 100-year flood plain.

As a consequence, groundwater is continuously pumped from the Federal Triangle's basements directly into the sewer. This water not only reduces the capacity of the sewer system, but it also is a lost opportunity to reuse the water for non-potable uses. With innovative techniques, pumped groundwater and captured stormwater could be directed to the National Mall for irrigation and possibly to fill pools and fountains. Thus, smarter, more sustainable practices can help reduce the risk of flooding, while also adding environmental benefits.



Employing sustainable practices will increase green jobs and help to conserve natural resources.



Green roofs will minimize stormwater runoff, help reduce the heat island effect, and provide urban amenities.

DREW SAUNDERS, FLICKR.COM/PHOTOS/DREWSAUNDERS



Washington's center city is characterized by compact development and walkable streets.

EDAW

There are other hurdles to achieving a sustainable city. The city's transportation system requires significant investment in maintenance and upgrades to meet demand, reduce dependence on automobiles, and improve air quality. Washington's parks, while abundant, are not ideally distributed to adequately serve all users. Some parks, therefore, suffer from overuse; others from lack of maintenance or declining conditions, which can cause safety risks and severe ecological damage. For example, the seawalls that surround much of Potomac Park have deteriorated and are a public hazard. Finally, the loss of Washington's urban tree canopy and the reduction of pervious surfaces exacerbate the city's urban heat island and poor air quality, increase the potential for flooding, and reduce wildlife habitat and ecological diversity.

These challenges are not always contained within geographic or political boundaries. Solutions will require an interdisciplinary effort of connected and interdependent strategies across multiple jurisdictions. Therefore, it will be essential for federal, state, and local authorities to work together as stewards

to solve these complex environmental issues and achieve a common set of sustainability goals. Together, federal and local partners can develop new technologies and strategies to improve the design and function of Washington. Innovations will help improve the quality of the built and natural environment by using resources more effectively. The challenge to integrate these new technologies into Washington's historic form will require creative technological advancements. For example, new streetcars without overhead power lines can protect the city's historic and cultural resources while also meeting transportation goals.

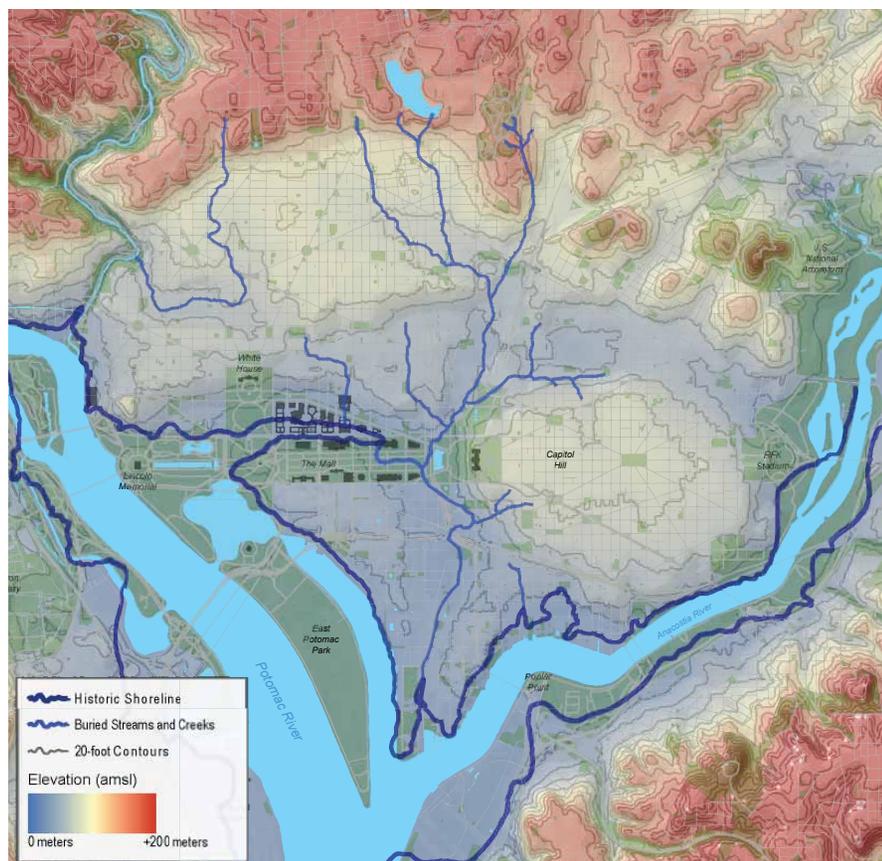
The *Framework Plan* seeks to promote strategies that combine urban design principles with sound environmental practices. Although the planning area is much smaller than the environmental systems that shape the Washington metropolitan region, there is an opportunity for each new project to be developed to the highest environmental standards and to promote sustainable interconnectivity between the monumental core and its surroundings.



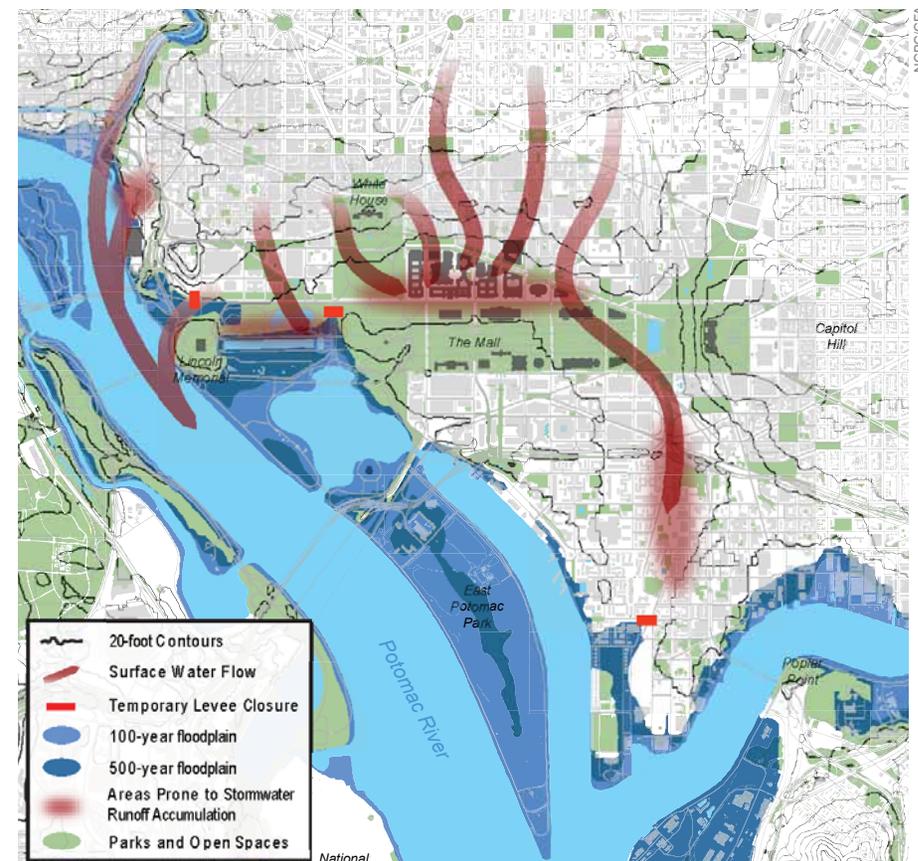
Flooding in Potomac Park, 1932.



Flooding in the Federal Triangle, 2006.



Washington's monumental core lies at the low point of a natural topographic bowl; changes to the river basin have altered its hydrology.



Alternations to Washington's natural conditions now require interventions to address river bank flooding and interior stormwater flooding within the monumental core.

The *Framework Plan* includes a comprehensive and forward-looking approach to urban sustainability. As a result, the *Framework Plan* includes strategies that address the built environment, green technologies, and energy efficiency, as well as strategies that improve urban ecology, enhance connections to the natural environment, and protect against natural hazards. Taken collectively, these proposed local and site-specific strategies will ultimately contribute to the long-term health of the broader environmental systems in the monumental core, Washington, and the metropolitan region.

Although sustainability is an ever-evolving science, there is greater understanding of how building in greener and more sustainable ways can maximize both economic and environmental performance and provide health and community benefits far beyond the envelope of a specific building or neighborhood. A more sustainable approach would help cities evolve toward a more circular metabolism that mimicks natural systems by reducing resource consumption, minimizing waste disposal, managing resources efficiently, and producing renewable energy on site.

As a planned city with a long tradition of innovative ideas, Washington presents a unique opportunity to showcase new possibilities in sustainable building design, ecological protection, and energy management. The *Framework Plan* strongly supports strategies that result in buildings that have minimal impacts on the environment. Furthermore, the *Framework Plan* envisions a city of green, high performance buildings set within a sustainable urban form that is designed and works in harmony with the city's natural systems and open space network.



Building & Infrastructure Strategies

1. **INVEST IN HIGH-PERFORMANCE BUILDINGS** to reduce energy consumption and generate renewable energy; recycle wastewater, reduce stormwater runoff, and conserve potable water; reduce light pollution; and promote healthier working environments. All new construction and modernization projects should incorporate principles of sustainable design and energy efficiency that meet or exceed existing standards. Green roofs can also be installed to help reduce stormwater runoff, reduce energy consumption, and help reduce the heat island effect.
2. **PROMOTE THE DEVELOPMENT OF RENEWABLE ENERGY TECHNOLOGY** within Washington's federal districts to help accelerate the availability and use of alternative fuels. Federal agencies within central Washington can support regional renewable energy production through shared long-term power purchasing agreements for clean renewable energy resources, and local renewable energy production by installing on-site renewable projects. Given the close proximity of federal facilities within Washington, agencies should collaborate to develop interagency renewable energy production.
3. **UPGRADE AGING INFRASTRUCTURE WITH AN EMPHASIS ON GREEN TECHNOLOGY** to modernize water and sewer systems, and develop systems that combine gray and green infrastructure to improve effective and efficient use of resources. Gray infrastructure includes water and sewer pipes and basins; green technology and other low impact development (LID) techniques include green roofs, rain gardens, bioswales, retention basins, pervious paving, planted medians, and restored wetlands. Combined, these infrastructure systems will help to improve stormwater management and water quality, control flooding, and recharge groundwater supplies; reduce ambient air temperature and cool urban heat islands; reduce energy consumption and improve air quality; create wildlife habitat; and improve the federal workplace.
4. **IMPROVE STORMWATER MANAGEMENT** to promote a more integrated natural system, one that addresses collection, conveyance, detention, treatment, and reuse. Creating green corridors by incorporating LID techniques along streets and alleys and within parks and plazas can help reduce reliance on sewer infrastructure. The monumental core and the National Mall should be considered as one integrated green stormwater management system so that runoff from the impervious buildings and streets can be captured and directed toward the National Mall, Potomac Park and other public spaces for productive use rather than discharged into the sewer system. In addition to collecting and cleansing stormwater, these techniques can also help recharge groundwater supplies, create attractive water features, reduce non-potable water needs for irrigation and fountains, and serve as perimeter security barriers.
5. **PROMOTE ENERGY EFFICIENT TRANSPORTATION** to reduce energy consumption and improve air quality. Examples include promoting the use of alternative fuels and accommodating alternative vehicle refueling and battery recharge or plug-ins for hybrid electric cars.

“Then I say the earth belongs to each generation during its course, fully and in its own right. The second generation receives it clear of the debts and encumbrances, the third of the second, and so on. For if the first could charge it with a debt, then the earth would belong to the dead and not to the living generation. Then, no generation can contract debts greater than may be paid during the course of its own existence.”

- Thomas Jefferson, 1789

Washington’s physical setting and farsighted planning have provided the city with extraordinary assets, including rivers, parks, and open spaces, but many of our past development practices have been at the expense of the natural environment. As the city continues to grow and change, it should move in a direction that seamlessly weaves the natural and built environment together. In the future, we must ensure that urban environments have clean air, clean water and clean land; that connected, healthy ecosystems are an integral part of the city; and that people have access to natural green spaces.



Green medians can channel and treat stormwater and provide a public amenity.

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Ecological Strategies

1. **INTEGRATE NATURAL ELEMENTS INTO EVERY SCALE OF DESIGN** to promote human connections to the natural environment, increase the environmental benefits derived from these elements, and soften the built environment. This would include incorporating green space into new development, planting trees, and educating the public about the importance of the environment.
2. **CONNECT AND ENHANCE OPEN SPACES** to be safe, highly functional, and accessible to all residents, workers, and visitors. Improve the connected system of parks and open space throughout residential and office districts, and identify opportunities for active and passive recreation to improve the health and quality of life of inhabitants. Where there are limited opportunities to create new parks in densely built areas, create innovative new outdoor recreation opportunities on existing open space and integrate green space into new development.
3. **PROTECT AND RESTORE URBAN NATIVE HABITATS** to support plant and animal wildlife, including species living on land and in rivers. Protect the large open spaces of the National Mall and Potomac Park, which are green havens for wildlife and plants. Plant native vegetation in parks and open spaces, including along wide tree-lined streets, to provide shelter and food sources for native animal and bird species. Discourage invasive, exotic, or nuisance species of plants and animals on both public and private property.
4. **REESTABLISH THE URBAN TREE CANOPY** along streetscapes and on development sites to reduce the urban heat island effect, improve local air quality, and provide shade. Tree cover is directly related to environmental quality. Urban streets are not only more aesthetically appealing when tree-lined, but maintaining a robust tree cover can help filter airborne pollutants and manage stormwater. The urban forest can also help create a sense of place in Washington’s city center and provide a more pleasant pedestrian experience. Recent research demonstrates that people visit tree-lined districts more frequently, linger longer, and spend more money than in streets devoid of trees.
5. **RESTORE THE NATURAL SHORELINE AND RIPARIAN HABITATS** along select riverfront areas to improve water quality, moderate flooding, and create new habitat for plants and wildlife. Natural shoreline areas should be accessible to users and should balance more active waterfronts.
6. **PROGRAM AND DESIGN FOR APPROPRIATE USES IN THE FLOOD PLAIN** to protect the city from river overbank flooding. This can be achieved by building and integrating adequate, innovative infrastructure into the city fabric; by working in concert with natural systems; by using operational and physical strategies to address risks to existing and proposed development; and by promoting the type of development that does not exacerbate—or even reduces—area-wide flood risks.

Environmental Opportunities

The *Framework Plan* contributes to a more sustainable urban ecology by:

- Reusing existing structures
- Creating additional development capacity through the efficient use of land and resources
- Reducing combined sewer overflow events
- Increasing the urban tree canopy
- Minimizing demand for potable water
- Creating riparian habitat
- Providing opportunities to develop local renewable energy sources and reduce energy consumption