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Route 28 Corridor Plan

Loudoun County
Department of
Planning

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Route 28 Corridor Plan

INTRODUCTION

The County envisions the Route 28 Corridor as an airport-anchored gateway into Loudoun County offering a positive and welcoming business environment that supports significant job growth and economic activity in varied settings. The County also envisions the corridor evolving into a premier location for regional, national, and international businesses with a high-quality image that offers employees vibrant centers of activity and highly-integrated pedestrian and transit-friendly employment developments. This vision reinforces the County's commitment to the continued commercial growth of the corridor that in turn contributes to the overall fiscal health and economy of the County.

The Economic, Land Use, Transportation, Design, and Sustainable Development policies contained in the plan are intended to provide a framework for future development that reflects five vision statements derived from the public process.

1. The Route 28 Corridor is an employment-based corridor that offers broad employment opportunities. The Corridor promotes a consistent pattern of development adjacent to Route 28 with higher-density office development and mixed-use activity centers. Residential densities are supportive and subordinate to employment densities within Mixed-Use Office Centers and in locations that can induce greater business activity;

2. The form and design of the Route 28 Corridor will be critical in promoting the County's vision of a high-quality office and commercial corridor that achieves higher office densities, attracts regional, national, and international businesses, and provides a unified development pattern throughout the corridor. "Places" or centers of activity offering office and office-supportive amenities along with public and civic uses will give the corridor a community identity;

3. The Route 28 Corridor takes advantage of its proximity to Washington Dulles International Airport by attracting new aviation and airport-ancillary businesses to the corridor and supporting the expansion of existing airport-related businesses in appropriate areas. The airport's location on the southern end of the Corridor also generates demand

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for office space from businesses that want to locate close to an international airport as well as hotels, restaurants, and retail centers that cater to business travelers and tourists;

4. The Route 28 Corridor promotes multi-modal connectivity, including transit, with the existing and planned transportation infrastructure; and

5. The Route 28 Corridor encourages sustainable development practices.

The Route 28 Corridor boundaries include properties that are generally bordered by Broad Run and Loudoun County Parkway to the west, Dulles Airport and Fairfax County to the south, Cascades Parkway, Potomac View Road, and the W&OD to the east, and Route 7 and Bles Park to the north. The map below shows the actual boundaries of the Route 28 Corridor. The properties contained within these boundaries are subject to the policies contained within the Route 28 Corridor Plan. These policies are described below.

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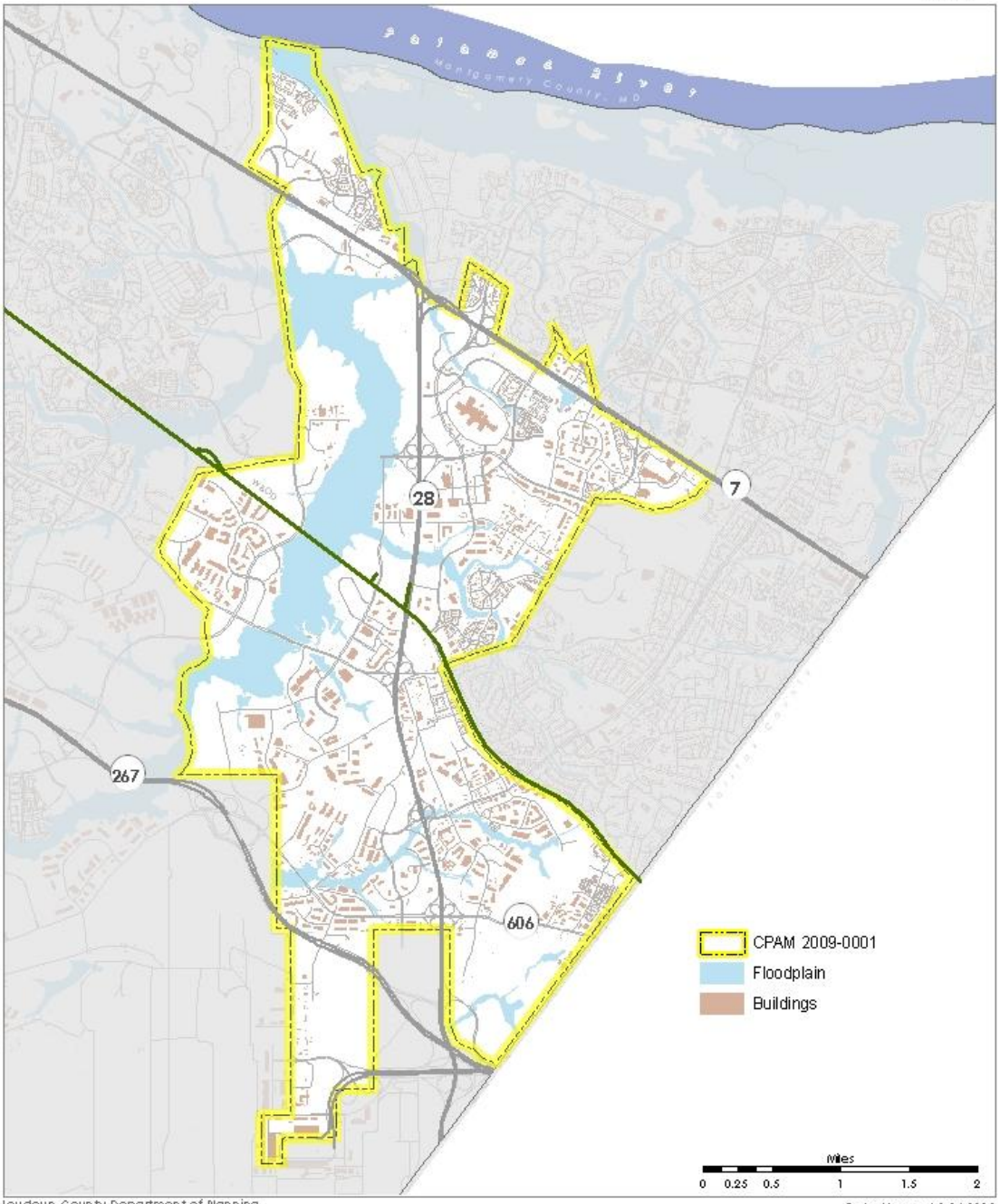
Route 28 Corridor Boundary Map



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Imagery Courtesy of the Commonwealth of Virginia

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Map Number 2010-181

ECONOMIC

The County can attract greater commercial development, including high-quality office, to the Route 28 Corridor based on several advantages:

- Approximately 3,100 acres of land remain undeveloped within the corridor;
- Properties adjacent to or within proximity of Route 28 offer businesses high visibility and accessibility;
- Proximity to an improved highway, air transport, and a future mass transit network for cost-efficient and timely distribution of goods and services, employee mobility, and greater workforce commuting options;
- Direct access to the world through ample fiber lines at MAE-East and international flights at Washington Dulles International Airport;
- Close proximity to the intelligence and surveillance hub along the Route 28 South Corridor and a host of neighboring peer organizations such as Orbital Sciences, Raytheon, AOL, M.C. Dean and others;
- Availability of properties suitable for custom campus and secure office developments that can accommodate security needs and/or combined office, research and manufacturing operations; and
- Proximity to a highly-educated, diverse workforce.

The Route 28 Corridor Plan policies maximize the commercial development potential within Route 28 Corridor by building on these strengths, offering planned land uses within locations that reflect the full economic potential of properties, and providing office development options within employment settings that reflect the kind of environments sought by business users. Route 28 Corridor Plan policies also support economic development in the corridor by accelerating the timing and absorption of office into the Route 28 Corridor submarket. Lastly, the Route 28 Corridor Plan promotes the growth of the commercial tax base; improving the revenue balance between commercial and residential, offsetting the greater costs of services for residential development, helping to meet or exceed the ability of the County to pay Route 28 Tax District bonds, and relieving the tax pressure on County residents by maintaining an affordable real property tax rate.

The policies contained within the plan are also intended to meet the key demands for development associated with the County's Board-adopted targeted Industry Clusters - Federal Government Contracting, Defense and Aerospace, and Information Communications Technology, as well as the emerging International Business cluster. While these businesses are currently recruited based on a cluster strategy which uses the County's existing business assets, the plan's policies establish a long-term vision for the corridor that will solidify Loudoun's corporate image and help expand the presence of these industries into the future. The plan also

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protects and encourages several critical features of high-end, corporate environments consistently sought by these types of industries. Specifically, the plan provides highly visible locations for high-quality office development, including custom campus headquarters and mid-to-high-density office, and multi-use office buildings within mixed-use environments. Route 28 development patterns encourage the highest-density office space fronting along both sides of Route 28 supported by lower-density Office and Flex uses that support information technology, research-and-development, and high-end manufacturing behind the "wall" of mid- to high density high quality office.

The *Revised General Plan* policies anticipate the continued growth and expansion of Washington Dulles International Airport for both passengers and cargo and seek to maximize the economic opportunities created by the airport. The Route 28 Corridor Plan policies continue to recognize Washington Dulles International Airport as a 21st Century multi-modal transportation hub that attracts airport-linked and ancillary businesses to the corridor and provides a gateway to the world. Airport-linked businesses include those businesses which rely significantly on the airport's passenger and cargo capacity, including businesses which depend on frequent long-distance travel and businesses involved with air-surface cargo warehousing and distribution. Airport-ancillary businesses include retail, hotels, and restaurants that support the growing airport-linked businesses moving to the corridor, along with national and international businesses who locate near the corridor due to its high-quality image and accessibility to the region's transportation network.

By clustering industrial and flex along Route 606, the County continues to support high-end manufacturing and distribution logistics, including air-surface cargo distribution, and other ancillary businesses, with the opportunity to capture even more airport-linked businesses in addition to those already emerging. The Route 28 Corridor Plan also encourages legacy industrial users currently along Route 28 to relocate to the more appropriate Route 606 area, which will in-turn establish a competitive, corporate gateway into Loudoun along Route 28, and strengthen and protect the identities of both Route 28 and Route 606 in future decades.

Economic Policies

1. To evolve the corridor into a premier location and employment destination for regional, national, and international businesses, including the County's targeted Industry Clusters, properties that offer high visibility and accessibility to Route 28 will have mid to high-density office.
2. The highest density office will occur in areas fronting along Route 28.
3. Office developments within mixed-use settings will be supported within the corridor to create "places", or centers of activity, that offer a complete set of uses and amenities that will appeal to office tenants, visitors, and residents alike.

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4. New residential will be concentrated and supportive to office within three high-density Mixed-Use Office Center development envelopes that are strategically located within areas where there is the highest potential to capture high-quality and high-density Office, thereby catalyzing the office development potential of sites and their vicinities while having an overall positive impact to the County's Route 28 Tax District debt obligations.
5. The County will target industrial and flex businesses, including distribution logistics, to locate to the planned Industrial area in the vicinity of Route 606 where properties offer more immediate access to the airport, Route 28, and the regional surface transportation-network.
6. Legacy industrial users currently along Route 28 are encouraged to relocate to planned Industrial areas.
7. A multi-modal transportation network, including transit, within the corridor will move employees, visitors, and residents seamlessly between various modes of transport.
8. The County supports the planned development and growth of Washington Dulles International Airport and will coordinate county planning with airport planning to ensure that the health and growth of the airport and corridor economies are mutually supportive. All new development shall consider and sufficiently mitigate potential impacts to the airport, such as transportation congestion, environmental impacts, and conflicting land uses.

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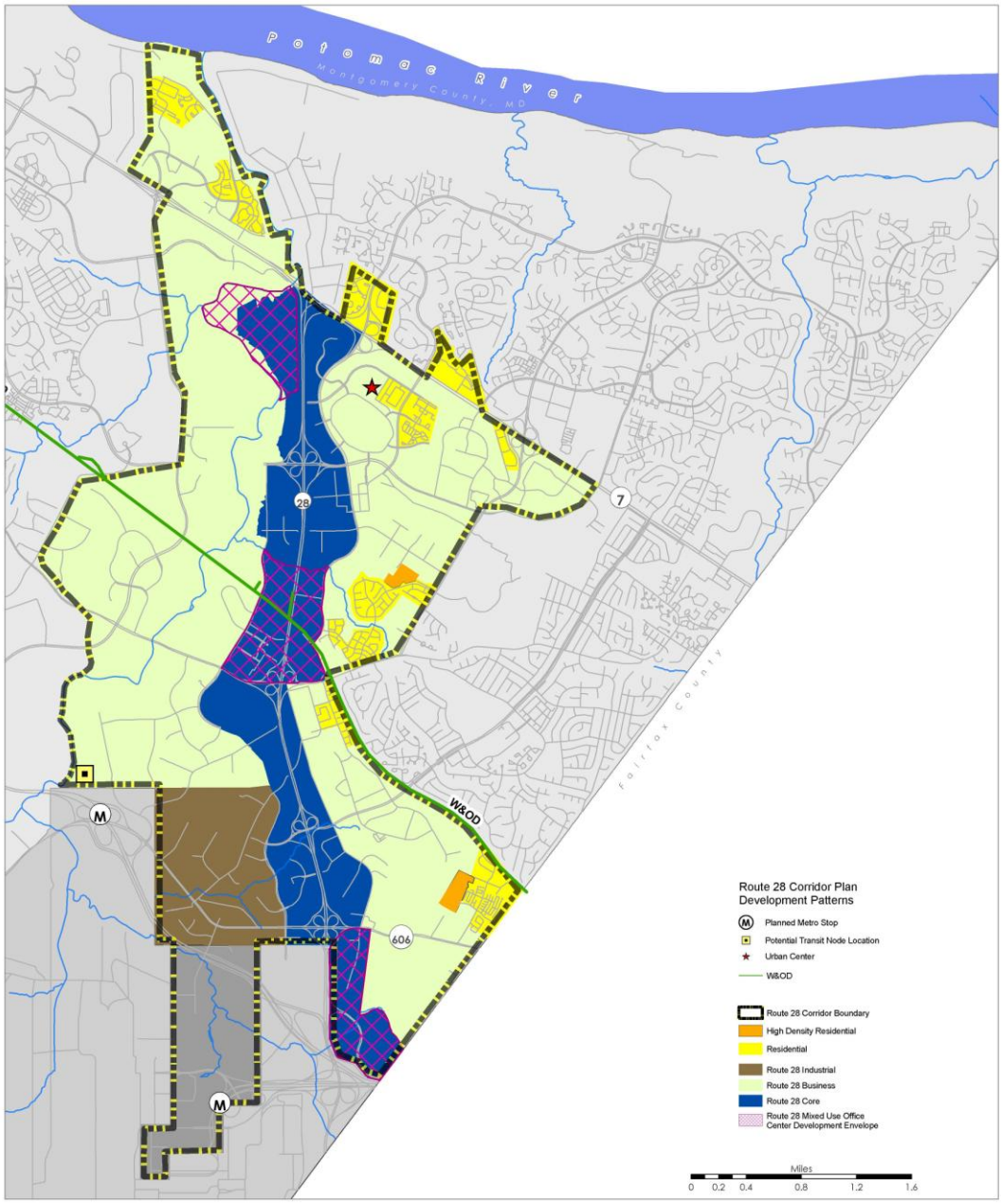
Route 28 Corridor Plan
Land Development Patterns



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Loudoun County Office of Mapping and Geographic Information

Date Mapped 12-21-2010
Map Number 2010-186

LAND USE

The County envisions the Route 28 Corridor as a major economic and employment center with predominantly commercial development within distinct land development patterns. Office development options are intended to meet the individual needs of regional, national, and international businesses that reflect evolving market preferences and potential. The development options range from suburban, lower-density office settings to medium-density, compact, pedestrian-oriented office clusters and higher-density, transit-oriented mixed-use office centers. Other parts of the corridor more immediate to Washington Dulles International Airport and Route 606 west of Route 28 are planned for Industrial uses..

Office employment in the Route 28 Corridor is planned within the Route 28 Business area, which supports Office and Flex uses, as well as a Route 28 Core area where two new types of office employment will be developed: Office Clusters and Mixed-Use Office Centers. These land development patterns are defined by the overall form and character of development, as well as their recommended land use mixes and intensities. Land use planning encourages higher intensity office employment uses immediately adjacent to Route 28 (generally between the parallel roads of Pacific Boulevard and Atlantic Boulevard/Shaw Road/Glenn Drive) although as the "spines" of development in the corridor, the County may consider higher density office development adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard as part of an integrated Office Cluster development or Mixed-Use Office Center. Flexible development options are offered elsewhere in the corridor. To catalyze office development at key locations and their surrounding areas, the development options allow three high intensity mixed-use areas to develop under certain criteria that will serve as centers of activity along the corridor. A broad range of supportive uses will be permitted and encouraged as appropriate, such as residential, hotels and retail. To support Loudoun's industry clusters related to Federal Government Contracting, Defense and Aerospace, Information Communication and Technology, and other emerging industry clusters, the corridor will offer unique opportunities for businesses to develop customized hybrid campuses that include combinations of office, research-and-development, and manufacturing in one development setting.

The County also will carefully consider compatibility in uses, densities, and site design of new developments with existing uses during the land development process, specifically the Washington Dulles International Airport, the Loudoun Quarry, Loudoun Water's Broad Run Water Reclamation Facility and existing and planned residential neighborhoods. Any potential negative impacts from new developments should be mitigated and compatible transitioning should be demonstrated. The corridor should include a distinctive identity through the use of landmark projects as well as high quality landscaping, architecture, signage, sustainability and other design elements that will set it apart from competing areas. The County's plan for the

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Route 28 Corridor is intended to stimulate the development of high-quality employment settings and transform the corridor to one of greater density, a synergistic mix of uses, more pedestrian and transit friendly, and sustainable in design and function.

General Policies

1. The Route 28 Corridor is a premier business corridor with an organized pattern of development. All land development within the corridor will conform to the Route 28 Corridor Land Development Patterns Map and the related plan policies contained herein.
2. The County supports the continued growth of higher education and research-and-development uses within the Route 28 Corridor that are complementary and compatible with the employment character of the corridor.
3. Any large-scale Public and Civic uses located within the Route 28 Core should be well-integrated within a development and enhance its economic development potential.
4. All new development within the Route 28 Corridor will mitigate any potential negative impacts to Washington Dulles International Airport, Loudoun Quarry, Loudoun Water's Broad Run Water Reclamation Facility, and existing and planned residential neighborhoods. Compatible transitions to these uses may be appropriate through a combination of use, intensity, scale and/or building heights, and setbacks.
5. Higher Floor Area Ratios (FARs) and minimum number of stories will ensure that land situated along Route 28 will build to its full potential, though the overall density of a project may be reduced based on environmental considerations, compatibility with surrounding uses and business requirements, and to further other planning objectives. The resulting development pattern should conform to the goal of locating the highest intensities closest to Route 28 and within ¼ mile of planned transit (bus or rail) stations.
6. With the exception of Mixed-Use Office Centers, all office land use categories provide flexibility for office campuses that include combinations of office, research-and-development, and manufacturing, provided that the project fully meets the design guidelines of this Plan.
7. The Route 28 parallel roads of Atlantic Boulevard/Shaw Road/Glenn Drive and Pacific Boulevard function as the "spines" of development in the corridor, as shown on the Land Development Patterns Map contained herein. Therefore, the County may consider higher density office development adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard as part of an integrated Office Cluster development or Mixed-Use Office Center. Consolidation of land or parcels should occur on both sides of these roadways such that the overall development results in well-designed, high-quality uses that are functionally and visually integrated with a pedestrian-oriented streetscape that includes safe and pedestrian-friendly movement across the Atlantic Boulevard/Shaw Road/Glenn Drive and Pacific Boulevard.

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Appropriate transitions from the parallel roads should be provided for lower density office settings within areas planned for Route 28 Business as well as existing and planned residential neighborhoods.

8. Residential development will continue to be located outside the adopted Ldn 65+ (day/night average noise level) noise contours for Washington Dulles International Airport.

9. Residential development within the Route 28 Tax District will be limited to three Mixed-Use Office Centers, the Urban Center, and Residential and High Density Residential areas included in the Land Development Patterns Map. Policies for the Mixed-Use Office Centers and the Urban Center are contained herein. Policies for Residential and High Density Residential areas are located in the Residential policies contained in Chapter 6 of the Revised General Plan.

10. Flex uses are supported in the Route 28 Corridor. Flex uses include laboratory, data centers, and training facilities in combination with office and research and development Within Flex, supportive Retail and Commercial uses over 10% will be limited to showrooms associated with the predominant use.

11. Flex and Light Industrial uses are supported within planned Industrial areas in conformance with the Land Development Patterns Map.

12. The County encourages the consolidation of existing smaller properties in order to create more unified development within the Route 28 Corridor. The advantages of consolidated development include comprehensive urban design, uniform architectural treatment, controlled access, more efficient parking and landscaping, and environmental protection. Consolidation of land or parcels should occur such that the development results in well-designed, high-quality uses that are sensitive to, and functionally and visually integrated with, planned and existing developments both within and adjacent to the corridor.

13. All development proposals will conform to a generally rectilinear grid system of streets. Development proposals adjacent to vacant or underutilized land will include opportunities for connectivity and demonstrate coordinated site design.

14. All development within the Route 28 Corridor will comply with the basic design standards contained in this Plan. Office Clusters and Mixed-Use Office Centers will comply with the applicable base design standards contained in the Plan regarding site design, street and block, streetscape, building form, parking, parks and open spaces, public and civic uses, landscaping, and signage that ensure high-quality design. All developments should contribute to the aesthetics of the corridor.

15. The County supports the development of a Public/Civic Facilities Plan specific to the corridor that includes the identification and location of planned public facilities, including

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parks and open spaces, and civic uses unique to the corridor and at a scale that is compatible with planned development.

16. For the purposes of the Route 28 Corridor Plan, the definition of Parks and Open Spaces and Civic and Public uses are as follows:

    Parks & Open Spaces - Outdoor areas that are dedicated for public use such as athletic fields, parks, greens, squares, plazas, courtyards, forecourts, and playgrounds. These spaces shall be integrated purposefully into the overall design of the development and not merely be residual areas left over after buildings and parking lots are sited. Parks and Open Spaces include open spaces in their "natural" state, such as forests, wetlands, or meadows; trails and trail connections, along with active and passive recreational spaces. The preservation of environmentally fragile and valuable land and habitat will be given a priority. Parks and Open Spaces also include greens, squares, plazas, forecourts, and courtyards, which should be designed as appealing places that foster social interactions and are designed to hold short-term informal activities and programmed events.

    Civic Uses - A single-use or shared building operated by a nonprofit group or organization, exclusive of government, that is dedicated to social, recreational, religious, educational, or charitable services. A single-use building or shared building operated for-profit for public assembly may be considered as a civic use on a case-by-case basis.

    Public Uses - Any building or structure, accessible to the general public, and held, used or controlled exclusively for public purposes by any department or branch of the federal, state, or Loudoun County government, such as post offices, motor vehicle departments, general government support offices, libraries, community centers, recreation centers, sheriff substations, fire and rescue stations, etc.

17. The County encourages partnerships among multiple developments to contribute toward significant, meaningful, shared Parks and Open Spaces and Public and Civic uses that will serve multiple areas within the corridor. Such a contribution may count towards a project's required Parks and Open Spaces and Public and Civic use components.

18. The County encourages innovative and sustainable design to meet a project's Parks and Open Spaces requirements, such as terraces, forecourts, promenades, enhanced entrance features, bioswales, rain gardens, and green roofs and walls. Green roofs that are proposed to meet a project's Parks and Open Spaces requirement must be accessible to the general public, or at a minimum, to all residents and employees of the building or development. Projects will include a variety of open space types.

19. The following policies apply to all land development in the southeast quadrant of the corridor (generally south of Route 606 and east of Route 28) to reflect its proximity to Washington Dulles International Airport, Fairfax County and the Town of Herndon:

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a. All land development proposals in this area shall be functionally and visually integrated with the adjacent transit station area planned in Fairfax County surrounding the Route 28/CIT metro station. All land uses shall be compatible with those existing and planned for Washington Dulles International Airport, Fairfax County and the Town of Herndon.

b. All development proposals shall provide coordinated roads, sidewalks, bike paths, and trails that provide linkages within Loudoun County to adjacent areas within Fairfax County and the Town of Herndon, in particular the Route 28/CIT metro station.

c. A network of streets will be implemented to connect future development in Loudoun County to adjacent future and existing development in Fairfax County, including a grid street pattern surrounding the Route 28/CIT transit station. The grid should create a hierarchy of streets and multiple access points to higher capacity roads intended to handle the traffic.

20. The County encourages Route 28 Tax District landowners in the corridor to rezone to appropriate zoning districts in the revised zoning ordinance that are consistent with the County's overall land use vision.

21. The County supports mechanisms and incentives that extend public utilities where absent within the corridor.

22. The County supports a project's ability to receive an increased FAR when commitments are given that support the policies of the Route 28 Corridor Plan. These commitments can include, but not be limited to, exceeding the minimum number of unmet housing needs units, lot consolidation of existing smaller properties for a more unified development pattern, green building design, and structured parking at full build-out.

Route 28 Core Policies

The Route 28 Corridor Plan identifies areas adjacent to Route 28 for high-quality, high intensity office developments that take advantage of the economic opportunities associated with frontage on Route 28. The Route 28 Core is generally bounded by Pacific Boulevard and the Broad Run floodplain to the west and Atlantic Boulevard/Shaw Road/Glenn Drive to the east. The County supports the development of Office Clusters within the Core. To stimulate economic activity along the corridor, up to three mixed-use office developments can be developed within this area in conformance with the Mixed-Use Office Center policies of this Plan.

General Policies

1. The Route 28 Core supports development within an Office Cluster or a Mixed-Use Office Center per the policies of this Plan.

2. The County may consider custom campuses that include combinations of office, research-and-development, and manufacturing uses within the Route 28 Core provided

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the predominant use in the proposed development remains office or research-and-development and the proposal conforms to the applicable design standards.,

3. With the exception of Destination, Full-Service Hotels, all new Commercial Retail and Service uses within the Core immediately adjacent to Route 28will be incorporated within mixed-use buildings.

4. Hotels within the core should include mid-priced, upscale, and/or luxury full-service hotels that provide at a minimum restaurant, lounge facilities, meeting space room service and bell service.

5. Destination, full-service hotels are encouraged in the corridor and are defined as multi-story, large-scale hotels with a minimum of 200 rooms, are targeted to business and/or leisure travelers, include large meeting facilities of 10,000 square feet or greater or are combined with a convention center, and contain high-quality services and extensive amenities, including one or more restaurants, bell and valet service, room service, concierge service, 24-hour front-desk service, business services, spa service, fitness center and recreational/entertainment facilities.

6. With its proximity to Washington Dulles International Airport and as a gateway into Loudoun County, the County supports a higher concentration of destination, full-service hotels south of Sterling Boulevard.

7. Office Cluster or Mixed-Use Office Center proposals will comply with the following criteria:

   a. Is consistent with the intent and purpose of the Route 28 Corridor policies and design standards contained herein.

   b. Supports the orderly and coordinated development of its surroundings by providing appropriate connections, landscaping and opportunities for integration of the adjacent properties, through design and street connectivity.

   c. Mitigates any adverse impacts to the built and natural environment.

   d. Achieves adherence to the base design standards within the Route 28 Corridor Plan.

   e. Complies with the sustainable development and unmet housing needs policies of the Route 28 Corridor Plan.

Office Cluster Policies

Office Clusters are defined as medium and high density compact, pedestrian-oriented office developments with highly integrated office-supportive amenities including retail, restaurants, hotels, personal services, parks and open spaces, public and civic uses, and both surface and structured parking at full build-out. They do not permit a residential component.

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1. Premier, highly-visible Office Clusters adjacent to Route 28 are supported in areas depicted on the Route 28 Corridor Land Development Patterns Map as Route 28 Core. Office within an Office Cluster is defined as high-quality office buildings containing four or more stories and located within areas that provide significant visibility and proximity to heavily traveled roadways.
2. A minimum of five stories is recommended for office buildings immediately adjacent to Route 28.
3. The County encourages a mix of highly-integrated uses and employment supportive uses, including Commercial Retail and Services uses, within Office Clusters. No residential development will be permitted.
4. Vertically-mixed buildings, such as multi-story office buildings with commercial storefronts on the ground level, are encouraged within Office Clusters.
5. Single-story retail uses are permitted in Office Clusters provided they are integrated within the development and provide pedestrian accessibility.
6. Secure office and research-and-development campuses will be permitted within areas designated as Office Clusters contingent on general compliance with the base design standards contained herein. For secure campuses, deviations from the applicable base design standards may be considered on case-by-case basis in order to accommodate security elements, for example greater building setbacks, secured perimeters, controlled site access, etc. The land use mix in an Office Cluster, based on square footage by use category, will substantially comply with the following ratios:
7.

Land Use Category*	Minimum Square Footage Required	Maximum Square Footage Permitted
Office	60%	100%
Commercial Retail & Services*	0%	10%
Flex	0%	10%
Public and Civic**	0%	15%
***For retail policies, see Countywide Retail Policy Plan **When Public and Civic buildings are proposed, the percentage square footage of the use may count towards meeting the minimum 15% requirement as described in Policy 8**		

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8. All Office Clusters will include a combination of Parks and Open Spaces and Public and Civic uses consisting of a minimum of 15% of the land area of the site. All such uses shall be meaningful and appropriate to the scale, setting and location of the development. All Parks and Open Spaces and Public and Civic uses shall conform to the design standards contained herein.

9. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to one-third of the required Parks and Open Spaces and Public and Civic uses may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor.

10. To support adjacent and surrounding office developments, destination, full-service hotels proposed south of Sterling Boulevard may exceed the recommended 10% Commercial Retail and Services and lower FAR's may be allowed.

11. Non-residential FARs between 0.6 and 1.0 FAR are envisioned in Office Clusters within the Route 28 Core contingent upon the availability of adequate transportation improvements.

Mixed-Use Office Center Policies

The County's vision includes Mixed-Use Office Centers within development envelopes located in the northern and southern ends of the corridor to promote the County's image as a world-class business destination. A third Mixed-Use Office Center development envelope is envisioned in the central portion of the corridor. These live-work centers will have higher intensities and a greater variety of uses than other areas of the corridor including multi-family residential to support a diversity of residents and workers, transit, and retail, entertainment, and recreational activities that promote 24/7 activity during morning and evening hours when employees are typically absent. Full-service and high-end limited service hotels, meeting places, destination attractions, culture, and entertainment that offer greater weekend and nighttime activity for office and Washington Dulles International Airport employees are encouraged. The mix of uses will allow for the creation of vibrant, activity-rich centers that will attract office tenants and a broad spectrum of residents and employees to the corridor and create unique "places" that are amenities for the entire corridor and its surrounding areas.

Within each Center, a high quality working and living environment will be created through well-designed projects. A range of residential dwelling units that help fulfill the County's unmet housing needs will be a vital element in these areas to ensure that affordable housing options will be located close to employment opportunities and transit. The phased density of these Centers may be higher than other areas within the Route 28 Corridor in order to provide a well-designed urban pattern of residential and non-residential uses with the "critical mass" needed to support employment and mass transit.

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1. The Plan foresees the development of up to three premier, high-intensity, Mixed-Use, Office Centers, each located within the development envelopes depicted on the Route 28 Corridor Land Development Patterns Map. Office within a Mixed-Use Office Center is defined as high-quality office buildings containing seven or more stories and located within areas that provide high visibility, proximity to Route 28, accessibility from major roadways, and accessible, multi-modal transportation options.

2. Mixed-Use Office Centers will consist of a core development located within the development envelopes depicted on the Land Development Patterns Map, be at least 50, but no more than 90, buildable acres in size and will ~~generally~~ substantially comply with the land use mix ratios indicated in Policy 17. the County may consider proposals under 50 acres on a case-by-case basis.

3. Additions to Mixed-Use Office Centers may be considered by the County on a case-by-case basis. The proposed addition shall (i) be adjacent to and contiguous with the core development, (ii) provide an integrated development plan both internal and with the core development achieved through roadway, pedestrian and bicycle connections as well as a consistent streetscape, (iii) conforms to the base design standards for Mixed-Use Office Centers contained herein, and (iv) does not cause the aggregate acreage of the center to exceed 90 acres in size.

4. Proposed additions to the Mixed-Use Office Center core development may vary from the land use mix provided the aggregate Mixed-Use Office Center acreage still complies with the recommended land use mix ratios in Policy 16.

5. While the County may consider higher density development adjacent to the east side of Atlantic Boulevard/Shaw Road/Glenn Drive and the west side of Pacific Boulevard as part of an integrated Mixed-Use Office Center, the County will not support a Mixed-Use Office Center proposal that extends beyond the northern and southern boundaries of the Mixed-Use Office Center development envelopes.

6. As a major, limited access highway, Route 28 is a barrier to Mixed-Use Office Center integration and the highway shall always act as an edge when centers are proposed and adjacent to the highway. As such, Mixed-Use Office Centers shall be limited to either the east or the west side of Route 28.

7. Mixed-use Office Centers will be developed as 24/7 amenity-rich environments unique to the corridor that appeal to a broad spectrum of employees, business tenants, and residents. A mix of mutually supportive uses will be provided in these Centers, including business, retail, restaurants, personal services, hotels, for-sale and rental housing, civic, public, cultural, and entertainment. They will serve as centers of activity along the corridor.

8. Mixed-Use Office Centers will develop as vertically integrated mixed-use buildings, such as multi-story office and residential buildings with commercial storefronts at ground

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level. Individual residential buildings are allowed if they are well-integrated into the design of the center and conform to the Route 28 Corridor design standards for Mixed-Use Office Centers. The Centers will have an "urban feel" with pedestrian-oriented building facades, ground-floor shops and civic amenities, and streets culminating in distinctive public spaces. Pedestrian circulation will be enhanced by short blocks arranged in a rectilinear grid-street pattern.

9. Single-story retail buildings conflict with the compact, pedestrian-oriented nature of these developments and are not appropriate and should not be permitted greater than 2,000 square feet.

10. Any drive-through retail uses will be incorporated within mixed-use buildings.

11. Residential dwellings within Mixed-Use Office Centers will be high-density, multi-family and meet the housing policies of this Plan. The County supports the development of multi-family housing at a variety of price points for rent and for purchase.

12. Mixed-Use Office Centers will provide for a safe, accessible, and pedestrian-friendly environment. Pedestrian and bicycle access shall be provided to transit stops/stations and neighborhoods adjacent to the area. Any potential conflicts between non-pedestrian and pedestrian circulation are to be resolved in favor of the pedestrian right-of-way.

13. Within the Centers, the highest concentration of development should be within a ¼ mile of existing, proposed, and/or planned transit stops/stations. The mix of uses at the highest concentration of development should create a critical mass of pedestrian activity as people live, work and spend leisure time in this area.

14. Major access roads will be located on or near the periphery of Mixed-Use Office Centers to avoid conflict with pedestrian traffic.

15. Parking within Mixed-Use Office Centers at full build-out should consist primarily of structured parking. Surface parking should be avoided except for on-street parking and as needed on an interim basis in the early phases of development.

16. Given the potential for the highest intensities and the greatest mixture of uses, each land development application proposing a Mixed-Use Office Center will analyze and effectively mitigate potential fiscal, transportation, capital facility, housing, and environmental impacts. The following criteria will used to evaluate Mixed-Use Office Center proposals:

    a. New residential uses will be contingent on the prior or concurrent construction of office uses such that they are the predominant use(s) on the property during each phase of the development;

    b. The provision of a unified, coherent concept plan showing the type and scale of uses, densities, and the physical and functional integration of proposed land uses in all phases of development, including specific plans and commitments for transit

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station(s) that will connect to existing and planned transit service along Route 28 and the Dulles Greenway and future connections to adjacent parcels;

c. The availability of appropriate multi-modal transportation improvements, including pedestrian and bicycle travelways;

d. The provision of utilities, public services and facilities such as schools, fire and rescue, sheriff, and recreational facilities;

e. The pedestrian-scaled, mixed use character of the area shall be established, commencing in the initial phase of development. The initial phase should include a grid street pattern, vertically-integrated land uses with ground-floor retail and other pedestrian activity-generating uses located along the street, plazas and usable open space, etc.; and

f. Commitments to address the County's unmet housing needs.

17. The land use mix in a Mixed-Use Office Center, based on square footage by use category, will substantially comply with the following ratios:

Land Use Category	Minimum Square Footage Required	Maximum Square Footage Permitted
Office	55%	70%
Commercial Retail & Services*	10%	20%
High Density Residential	15%	25%
Public and Civic**	5%	No Maximum
***For retail policies, see Countywide Retail Policy Plan **At least 2% of the Public and Civic square footage shall be provided on-site.**		

18. Mixed-Use Office Centers that propose Destination, Full-Service Hotels may exceed the maximum 20% Commercial Retail and Services.

19. All Mixed-Use Office Centers will include Parks and Open Spaces consisting of a minimum of 10% of the land area of the site.

20. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to half of the required Parks and Open Spaces and three-fifths of the required Public and Civic uses may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor. Contributions

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would be in addition to the anticipated Capital Facilities contributions associated with the Mixed-Use Office Center.

21. All Public and Civic uses and Parks and Open Spaces shall conform to the design standards contained herein.

22. The County anticipates a maximum residential and non-residential FAR of 1.0 and up to 1.5 with incentives for Mixed-Use Office Centers within the northern and central Mixed-Use Office Center areas and a maximum residential and non-residential FAR of 1.5 and up to 2.0 with incentives for the southern Mixed-Use Office Center area.

Route 28 Business Policies

The Route 28 Business area as depicted on the Route 28 Corridor Land Development Patterns Map reserves land outside the Route 28 Core for low to mid-density Office and Flex uses. Office settings allow for a limited amount of internally-oriented office-supportive uses and amenities. Within Flex settings, buildings contain spaces that can be configured to allow a flexible amount of office or showroom space in combination with research-and-development, laboratory, high-tech, and warehousing uses. Flex uses also include Data Centers. The overall intensity of these areas should generally be lower than Office Clusters and Mixed-Use Office Centers. Office and Flex developments are anticipated to include a combination of well-integrated Parks and Open Spaces and Public and Civic Uses.

1. The Route 28 Business area supports up to 100% Office and Flex uses with supportive Commercial Retail and Services limited to 10% of the floor area.

2. The County supports and encourages the development of secure office campuses and research-and-development uses within the Route 28 Business area.

3. No additional residential development will be permitted within the Route 28 Business area outside those areas specified in Land Use General Policy 7.

4. Typical buildings within the Route 28 Business area will contain two or more stories. The County encourages higher intensities, generally four or more story buildings, adjacent to major roadways such as George Washington Boulevard, Russell Branch Parkway, Waxpool/Church Road (Route 625), Loudoun County Parkway, Moran Road, Sterling Boulevard, Route 7, and Route 606 east of Route 28. Flex uses will not be permitted adjacent to these roadways.

5. Route 28 Business prohibits the outside storage of materials and equipment.

6. All developments within the Route 28 Business area will include a combination of Parks and Open Spaces and Public and Civic uses consisting of a minimum of 15% of the land area of the site. All such uses shall be meaningful and appropriate to the scale, setting and location of the development and shall conform to the design standards contained herein.

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7. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to one-third of the required Public and Civic uses and Parks and Open Spaces may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor.
8. Non-residential FARs between 0.4 to 1.0 are envisioned within the Route 28 Business area. Lower FARs may be allowed for Flex developments.

Route 28 Industrial Policies

The Route 28 Industrial area supports Heavy Industrial, Light Industrial, and Flex uses that have traditionally clustered near the Washington Dulles International Airport. Light Industrial and Flex businesses that include warehousing, distribution, and manufacturing that rely on time-sensitive air-cargo transfer can take advantage of locating within the Industrial area. This area provides more immediate access to the airport, Route 606, Route 28, and the regional surface transportation network. Locating the Route 28 Industrial area near the airport and along the Route 606 Corridor west of Route 28 also protects land critical to airport-related businesses and directs these types of uses to land that is outside the Route 28 Core.

1. Route 28 Industrial supports up to 100% Heavy Industrial, Light-Industrial, and Flex uses with supportive Commercial Retail and Services limited to 10% of the floor area as depicted on the Route 28 Corridor Land Development Patterns Map as Route 28 Industrial.
2. Within Light Industrial settings, buildings contain spaces that can be configured to allow a flexible amount of office space in combination with warehouse distribution, manufacturing (light and heavy), freight-forwarding (truck terminals and air cargo), and heavy equipment repair.
3. Uses requiring considerable outside materials and equipment storage, heavy equipment repair, and similar activities will be permitted within areas designated as Industrial.
4. All developments within the Route 28 Industrial area will include Open Spaces consisting of a minimum 10% of the land area of the site. All such uses shall be meaningful and appropriate to the scale, setting, and location of the development and shall conform to the design standards contained herein.
5. Subject to a County-approved Public/Civic Facilities Plan, which includes Parks and Open Spaces, up to half of the required Open Spaces may be waived if contributions in the form of cash-in-lieu are provided toward such uses off-site and within the Route 28 Corridor.
6. The County will provide opportunities and incentives to encourage legacy industrial businesses within the corridor to relocate to designated industrial areas.

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7. Non-residential FARs between 0.20 to 0.40 are envisioned within the Route 28 Industrial area.

HOUSING

The County's policies for Mixed-Use Office Centers include the provision of multi-family housing located close to employment, transit, shopping and services. In addition to office and residential, Mixed-Use Office Centers will include a mix of commercial retail and services and other types of supportive uses. The plan's housing policy objectives promote Mixed-Use Office Centers that enable employees in the corridor to live close to their places of employment.

In 2007, the Loudoun County Board of Supervisors adopted revised housing policies that are aimed at promoting housing options for all people who live and/or work in Loudoun. The County's housing policies focus on the unmet housing needs of Loudoun's citizens and workers earning up to 100% of the Washington Metropolitan Area Median Income (AMI). A 2006 study produced for the Loudoun County Housing Advisory Board by AECOM CONSULT determined that, there was a shortage of rental and owner-occupied units available for Loudoun's workers. According to the study, there is a shortage of available rental units for incomes ranging from 10 to 60% of AMI. Over time, the rental housing shortage is expected to get worse for incomes from 10 to 50% of AMI. For owner-occupied units, the shortage occurs from 10 to 120%. Shortages worsen over time for income ranges from 50 to 100% of AMI with the most pronounced shortages for incomes at 80% of the median.

All development within the Route 28 Corridor that includes a residential component should address the County's unmet housing needs. In particular, the residential component of Mixed-Use Office Centers should accommodate a variety of age groups, interests, and needs and be accessible to those without cars, meet ADA requirements, and incorporate universal design. Appropriate contributions include Affordable Dwelling Units (ADUs) required pursuant to the Zoning Ordinance, below market rate for-purchase and/or rental units that the County deems to meet the intent of these housing policies, or monetary contributions to County housing initiatives and programs.

Housing Policies

1. All residential development within the Route 28 Corridor shall conform to County policies for addressing unmet housing needs to encourage a diverse population of residents to support a variety of jobs.
2. Housing that is developed to fulfill unmet housing needs should be well integrated and dispersed throughout the Mixed-Use Office Centers while located near existing or planned employment opportunities, transit routes and stops, and other amenities.
3. All proposals for Mixed-Use Office Centers shall provide a minimum of 12% of the proposal's total units on-site to address unmet housing needs. Flexibility regarding the percentages within the income tiers may be considered for projects that meet additional

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housing needs identified by the County. Examples include providing a higher proportion of units in the lowest income tiers or providing a high proportion of accessible units. Such proposals shall be evaluated on a case-by-case basis.

4. The minimum number of units shall be distributed as affordable based on the countywide housing policies and the following Income Tiers:

Income Tiers for Addressing Unmet Housing Needs in the Route 28 Corridor **Based on Washington Metropolitan Area Median Income (AMI)**		
Income Tier	**% of Total Units**	**% of Total Units (Rental Only Projects)**
0 up to 30%	2	2
Above 30% up to 60%	5	10
Above 60 up to 80%	3 (For Sale Only)	-
Above 80 -100%	2 (For Sale Only)	-

5. If required by the Zoning Ordinance, ADUs may be counted toward meeting the 12% unmet housing need objective.
6. A covenant securing affordability for a minimum 30 years will be attached to each unit that addresses unmet housing needs.
7. Mixed-Use Office Center proposals that commit to at least 15% of the total units for unmet housing needs objectives as set forth in Policy 4 shall be entitled to receive an increase in the FAR not to exceed 0.1 over the upper density limit set forth in the plan. Mixed-Use Office Centers that provide a greater amount of very-low income housing units based on the project's total units (0 up to 30% of AMI) may be eligible for an additional 0.1 FAR increase in floor area. Increases in floor area may be used for residential and non-residential uses in accordance with the overall land use mix.
8. All dwelling units intended to address unmet housing needs should be provided prior to or concurrently with market rate units, be dispersed throughout the project, have a similar mix to market rate units in the number of bedrooms and floor area, and be comparable to market rate units in terms of appearance, materials, and finished quality.

TRANSPORTATION

Route 28 is one the most heavily traveled transportation arteries in Loudoun County, extending from Route 7 in the north to Dulles Airport and the Fairfax County line to the south. Route 28 in Loudoun County is a 6-mile long, six-lane, limited access, median divided, principal arterial with seven grade-separated interchanges. As of 2008, the latest available data from VDOT, Route 28

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carries anywhere from 70,000 (at its northern most end), to 111,000 daily trips (where it intersects the Dulles Toll Road). Two parallel roads, Atlantic Boulevard to the east, and Pacific Boulevard to the west of Route 28, provide local north/south access to the corridor. A series of east/west roadways provide connections to countywide systems and allow local traffic to access the Route 28 Corridor. There are numerous bicycle and pedestrian facilities planned within the Route 28 Corridor, although the overall network remains incomplete. The Washington & Old Dominion (W&OD) Trail is the most significant non-motorized facility in the corridor. The Route 28 Corridor is currently served by both commuter and local bus service, with anticipated connections to future Metrorail.

While the corridor is currently automobile dependent, the transportation network in the future must provide more opportunities for greater bicycle, pedestrian, and transit accessibility to support the types of densities envisioned. The establishment of a multi-modal transportation network, with an emphasis on transit, is an important component to reduce future traffic impacts due to growth and to support the types of vibrant pedestrian-friendly employment and mixed-use developments envisioned in the corridor. Investments in transit within the corridor can enhance the value of adjacent properties, support greater high-quality Office development, and increase the competitiveness of the corridor within the region to attract national and international businesses. Travel Demand Management (TDM) strategies which reduce the use of single-occupant vehicle trips, optimize non-vehicular modes of transportation and maximize transportation system performance are critical for the development of the corridor. TDM strategies, in addition to the use of alternative modes of transportation (i.e. bicycle, pedestrian, and transit), also advocate a shift in traditional work schedules which may include teleworking, compressed work week, flexible work hours etc. to achieve peak hour trip reductions. The implementation of TDM strategies is also consistent with the County's goals for environmental sustainability, providing opportunities for decreased fuel consumption and reductions in greenhouse gas production. The appropriate balance between land use and transportation demands to support expected growth in the corridor is critical to maintaining the viability and economic success of the corridor as it develops in the coming years.

Transportation Policies

1. Development in the corridor will be linked to transportation capacity. The Route 28 Corridor will offer a balance of transportation options, including automobile, transit, pedestrian, and bicycle.
2. Development within the Route 28 Core should be compact, higher-density, and include a mixture of uses to support reductions in vehicle trips and overall traffic congestion and multi-modal development.
3. The County will support the planning, funding, and development of public transit services for the Route 28 Corridor.
4. The County will work with VDOT to prioritize, fund, and implement road improvements

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that create better efficiencies and reduce traffic congestion within the corridor.

5. The County shall require street connectivity within and between developments through a finer grid of streets to disperse traffic, reduce vehicle trips, and improve bicycle and pedestrian mobility.
6. The County will consider reduced design speeds and other flexible design standards on road segments within the corridor to ensure safe pedestrian and bicycle mobility.
7. The County will develop guidelines for context-sensitive street designs to improve bicycle and pedestrian accessibility, connectivity, functionality and safety within the corridor.
8. On-road bicycle accommodations and off road shared use paths and/or sidewalks will be provided, where feasible, on the parallel roads (Atlantic Boulevard/Shaw Road/Glenn Drive and Pacific Boulevard) and major connecting roadways to provide a balanced multi-modal system.
9. The County anticipates improved multi-modal connections within the corridor and will develop opportunities for greater bicycle, pedestrian, and transit accessibility from employment areas to existing and planned residential neighborhoods within and outside the corridor.
10. The County supports the identification of additional locations for Route 28 bicycle and pedestrian cross-connections, including bridges and decks, which will decrease the barrier of the highway to bicycle and pedestrian movement.
11. Trail and/or sidewalk facilities will be incorporated in all road improvement projects in which provision for pedestrian movement is consistent with the function and character of the road and/or where there is an opportunity to establish a connection with the County's existing or proposed trail system.
12. Transportation solutions in the southern section of the corridor, including transit, pedestrian and bicycle ways, and road improvements, will be determined through a regionally-oriented approach with Fairfax County, the Town of Herndon, and the Metropolitan Washington Airport Authority (MWAA).
13. The County's Travel Demand Management (TDM) strategies contained in the Countywide Transportation Plan will be used, with the assistance from the private sector, to reduce the use of single-occupant vehicle trips and optimize transportation system performance during peak and off-peak periods.
14. The County will require a Travel Demand Management (TDM) plan for all Mixed-Use Office Center and Office Cluster developments. The TDM plan will establish specific trip reduction thresholds related to various phases of development, identify measures to quantify these trip reductions, and include penalty provisions in the event trip reductions thresholds are not achieved.

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Route 28 Corridor Plan Land Development Pattern Matrix**LAND DEVELOPMENT PATTERN**	**Floor-to-Area Ratio (FAR)**	**Typical Uses Envisioned**	**Number of Stories**
Route 28 Core:		Office clusters; Mixed Use office centers	
• Office Cluster	Between 0.6 and 1.0 FAR contingent on transportation improvements	Mix of highly-integrated uses and employment supportive uses; vertically-mixed building with commercial storefronts on ground level; no residential uses allowed; may include custom campuses; predominantly office, combinations of office, Research & Development, manufacturing; limited Commercial Retail and Services; Public and Civic uses	Minimum of five stories immediately adjacent to Route 28
• Mixed-Use Office Center (MUC)	1.0 FAR up to 1.5 FAR with incentives for the northern and central MUC areas; 1.5 FAR up to 2.0 FAR with incentives for the southern MUC area	Mix of mutually supportive uses including business, retail, restaurants, personal services, hotels, for-sale and rental housing, civic, public, cultural and entertainment uses; 24/7 amenity-rich developments; vertically integrated mixed-use buildings; “urban feel” with pedestrian-oriented building facades; high-density, multi-family residential dwellings only	Seven or more stories

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Route 28 Business	Between 0.4 and 1.0 FAR; lower FARs in Flex developments	Low to mid-density Office and Flex uses; includes secure office campuses and R&D; supportive Commercial Retail and Services up to 10% of FAR: No residential uses; no Flex adjacent to major roadways; no outdoor storage; Large scale Public and Civic uses allowed	Two or more stories; higher intensities, generally four or more stories adjacent to major roadways
Route 28 Industrial	Between 0.2 and 0.4 FAR	Up to 100% Heavy Industrial, Light Industrial, Flex uses with supportive Commercial Retail and Services limited to 10% of FAR; includes warehousing, distribution, manufacturing; outdoor storage of materials and equipment allowed	Not specified.

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DESIGN

The development patterns supported in the Route 28 Corridor, including Mixed-Use Office Centers, Office Clusters, Office, and Flex, focus as much on the physical form and character of development as much as their uses. Adherence of developments to the basic design standards below is important to achieving a unified development pattern in the corridor that is consistent with the Route 28 Corridor Land Development Patterns Map. Adherence to the basic design standards also contributes to a high-quality image for the corridor that attracts regional, national, and international businesses.

General Policies

1. The County will develop a user-friendly, illustrative design handbook that reflects the Route 28 base design standards contained herein. The handbook will convey a high quality image for the Route 28 Corridor and promote an overall sense of place through design elements that relate to block size, circulation and connectivity, streetscape and street sections, building form, placement (setbacks), orientation, articulation, Parks and Open Spaces, Public and Civic uses, landscaping and sustainability.
2. The base design standards emphasize the integration of natural features and shared, meaningful Parks and Open Spaces.
3. Office Clusters and Mixed-Use Office Centers shall create a sense of place, and establish the Route 28 Corridor as a premier employment location. In particular, development of a gateway at the southern end of the corridor shall convey a sense of arrival for visitors and business travelers to the Route 28 employment corridor and into Loudoun County. Unique design shall occur within or proximate to a Mixed-Use Office Center, including iconic buildings, structures, and monuments, significant signage, and public art/sculptures that are visible from the gateway crossroads of Route 28 and the Dulles Greenway/Toll Road.
4. Design commitments for proposed developments within the Route 28 Core and Route 28 Business areas shall demonstrate conformance with the standards of the plan.
5. The County will consider incentives for property owners to upgrade their existing developments to meet the Route 28 Corridor design standards.
6. Developments within the Route 28 Corridor will have minimal impact on environmentally-sensitive areas and surrounding residential uses and exhibit design consistent with the Green Infrastructure and land use policies of the Plan. Existing historic sites, as well as the natural environment, should be incorporated and highlighted in the overall architectural and landscape design.
7. Office Clusters and Mixed-Use Office Centers within the entire Route 28 Corridor will be subject to specific design standards contained herein.

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8. Developments proposed in the Route 28 Business area will be subject to the applicable design standards for Office and Flex uses. Generally, Flex developments in these areas should be designed within a park-like atmosphere, exhibiting a high curb appeal through the use of extensive landscaping and coordinated building architecture. Office uses should be located to the front of the building along the roadways, with Flex uses and parking to the rear of the property.
9. Developments proposed in the Route 28 Industrial area will be subject to the applicable design standards for General Industrial uses.
10. Developments on small parcels that may not be able to achieve the full vision of an Office Cluster may be considered if proposed developments are able to meet the intent of the design standards and can demonstrate compatibility and integration with adjacent developments.

Office Cluster and Mixed-Use Office Center Design Standards

The Route 28 Core supports a development pattern of mid to high-density, compact, and pedestrian oriented Class A Office developments through Office Clusters and Mixed-Use Office Centers.

Adherence to the base design standards listed below for Office Cluster and Mixed-Use Office Center developments establishes a consistent development pattern along Route 28 that supports a viable, cost-effective planned transit system. The base design standards also establish a more predictable development environment for businesses seeking to develop and locate into the corridor; ensure that developments are compatible with adjacent land uses, contributes to the character of the neighborhood and larger community; create vibrant, pedestrian-oriented places; and support developments that are high quality and visually appealing from adjacent streets and surrounding neighborhoods with an emphasis on building placement and orientation as well as site design.

The development pattern for Office Clusters shall be highly-integrated, compact, mid- to high-rise employment settings. Buildings in Office Clusters will be four or more stories and will provide both structured parking and minimal surface parking. It is envisioned that larger-scaled buildings with building heights of five stories or more will be located along Route 28 with lower density and building heights further away. Office Clusters feature buildings arranged around squares, greens, plazas, forecourts, and courtyards on blocks formed with a rectilinear street pattern. Office Clusters also include landscaped, walkable streets that can feature buildings with storefronts offering ground floor Commercial Retail and Services. Office Clusters are encouraged to provide Parks and Open Space features such as pedestrian promenades, linear parks and trails, outdoor amphitheatres, and similar design features that invite additional pedestrian activity, recreation, and socialization.

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The development pattern for Mixed-Use Office Centers calls for a higher intensity of development than Office Clusters. Office buildings within Mixed-Use Office Centers contain seven or more stories. Parking within Mixed-Use Office Centers at full build-out shall consist primarily of structured parking. The centers should have a lively, robust character with an integrated mix of uses that include Office, Commercial Retail and Services, Residential, Parks/Open Spaces and Public/Civic Uses. The design of Mixed-Use Office Centers is similar to Office Clusters and features a compact urban design with pedestrian-oriented building and parking garage facades, ground-floor shops, and distinctive public spaces. Pedestrian and transit circulation are enhanced by short blocks arranged in a rectilinear grid-street pattern.

Site Design Standards:

1. Office Clusters and Mixed-Use Office Centers shall be designed as higher density, compact, and highly integrated developments that foster pedestrian activity.
2. Developments shall enhance the existing character of the area, and build upon an established sense of place in the surrounding neighborhoods.
3. Heritage and environmental resources shall be preserved and incorporated into the overall design of developments.
4. Pedestrian and bicycle facilities shall be incorporated into all new developments.
5. Transit stops shall be incorporated into the layout of all Mixed-Use Office Centers.

Street and Block Standards:

1. Internal streets shall follow a grid-street pattern to maximize pedestrian connectivity, improve traffic movement along multiple transportation routes and encourage shorter trips, unless precluded by natural and topographical barriers.
2. A hierarchy of streets shall be identified, both internal and adjacent to a development, with street design standards that are context-sensitive to adjacent developments. Street hierarchy shall include primary streets where there will be a focus of pedestrian activity, along with key areas of ground-floor retail activity where there is a high percentage of planned Commercial Retail and Service uses.
3. The street network shall provide for the efficient movement of vehicles while minimizing conflicts with pedestrians and bicycles.
4. The street network shall provide connections to adjacent existing and planned developments. The street network shall also connect to the surrounding street network.
5. Blocks shall be configured at a pedestrian-scale that encourages walkability. “Superblocks” should be avoided. Perimeter block sizes within Mixed-Use Office Centers and Office Clusters generally should not exceed 2,000 feet.
6. Blocks in Mixed-Use Office Centers should not exceed 400 linear feet. To mitigate the impact of longer blocks, any one block with a linear length of 400 feet or greater should

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provide in the middle of the block an alley, driveway, pedestrian way or other significant pedestrian feature such as a plaza, park, or promenade.

Streetscape Standards:

1. Streetscape design shall ensure the space between the buildings and the roadways contribute to a comfortable pedestrian environment providing adequate space for efficient, safe, and accessible pedestrian circulation and a sense of enclosure that supports useable pedestrian spaces. Street trees and plantings should be considered to enhance the character of the street.
2. Large-lot commercial developments shall provide both vehicular and non-vehicular linkages to surrounding areas and between office buildings and other uses.
3. Transit stops not integrated into buildings shall be provided with covered bus stops and waiting areas to shelter pedestrians from extreme sun, wind or rain.

Building Standards:

1. Office Clusters shall feature buildings of four or more stories, except adjacent to Route 28 where buildings of five or more stories are envisioned. Mixed-Use Office Centers shall feature buildings of seven or more stories with a general stepping down of densities towards the periphery of developments when necessary to be compatible with surrounding communities and developments.
2. Where not incorporated into mixed-use buildings, residential buildings within Mixed-Use Office Centers shall be urban in character and compatible in form and scale with surrounding commercial buildings.
3. Distances between buildings shall be minimized to create safe, pleasant, and active street-level environments and support pedestrian connectivity between buildings, thereby reducing the need for residents, employees, and visitors to drive their automobiles to reach supportive uses, including Commercial Retail and Services.
4. Buildings shall be placed close to streets with minimal setbacks and include planting, pedestrian, sidewalk, and frontage zone standards appropriate to the context of adjacent developments. Buildings should adhere to build-to-lines.
5. Primary building entrances shall be oriented towards the street or a common gathering place such as a plaza, green, park, square, or pedestrian passageway. Pedestrians should be able to easily identify primary entrances into commercial establishments.
6. Buildings greater than 12 stories shall be designed to include façade articulation with design details and features such as building step-backs, to reduce visual massing and mitigate impacts to adjacent properties.

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7. Building materials and colors shall exhibit high-quality designs with articulation on all sides of the building.
8. Mixed-Use Office Center service areas, including refuse and loading areas, should be enclosed within the principal building. Doors for access to the service areas should blend with the architectural treatment of the building.
9. Office Cluster service areas, including refuse and loading areas, should be screened from view by visitors and passers-by through landscaping or screening.

Parking Standards:

1. To encourage compact, pedestrian-oriented developments, structured parking is supported within Office Clusters and Mixed-Use Office Centers. Office Clusters may contain both surface and structured parking, depending on the density proposed on-site, whereas Mixed-Use Office Centers will contain predominately structured parking at full build-out.
2. Phasing of surface to structured parking during the construction of Office Clusters and Mixed-Use Office Centers will be considered through the application process.
3. The joint use of drive aisles and parking areas should be encouraged to reduce overall parking needs.
4. Parking should be located to the rear of buildings, within the interior of blocks, with access from alleys or streets which do not conflict with pedestrian access.
5. Structured parking should be conveniently or centrally located, but visibly minimized from arterial streets and public spaces. Surface parking should not occupy lots which terminate a street vista or abut street intersections
6. In Mixed-Use Office Centers and Office Clusters with supportive uses, primary pedestrian streets with ground-floor structured parking should include ground-floor uses or liner buildings with retail, services, restaurants, and offices.
7. Surface parking lots should be avoided along primary pedestrian streets. Surface parking lots should be adequately screened from the street-side.
8. Within Mixed-Use Office Centers, parking at full build-out will not be located along blocks where it is the sole use.

Parks and Open Spaces Standards:

1. Parks and Open Spaces include pedestrian-scaled outdoor areas such as greens, squares, plazas, courtyards, forecourts, and playgrounds. Parks and Open Spaces also include open spaces in their “natural” state, such as forests, wetlands, or meadows; trails and trail connections and active and passive recreational spaces.

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2. Parks and Open Spaces shall be integrated purposefully into the overall design of a development and not merely residual areas left over after buildings and parking lots are sited.
3. Parks and Open Spaces designed to function as gathering places should be clearly identified and accessible to pedestrians and bicyclists.
4. Parks and Open Spaces shall be dispersed so that all residential dwellings and non-residential buildings are located within 1,500 feet of such spaces.
5. Greens, squares, plazas, forecourts, and courtyards shall be designed as appealing places to gather with the type of amenities that foster informal social interaction among users. Examples of amenities within these areas include ponds, fountains, ornamental lamps, terraces, waterfalls, sculptures and other public art, planted beds, benches, drinking fountains, and clock pedestals.
6. Within Mixed-Use Office Centers, greens, squares, and plazas are encouraged to consider outdoor seating areas, amphitheatres, and other design elements that support more structured, formal activities.
7. Small-scale single or two story commercial retail buildings, such as restaurants, coffee shops, bakeries, and public markets, are allowed within greens, squares, plazas, forecourts, and courtyards.
8. Heritage and environmental resources shall be incorporated into Parks and Open Spaces and pursuant to the Heritage Preservation Plan.
9. The preservation of environmentally fragile and valuable land and habitat shall be given a priority for Open Space set-aside.
10. Parks and Open Spaces should connect with and provide views to natural amenities.
11. Developments should identify linkages to the existing or planned trail network.
12. Mixed-Use Office Centers should provide active Open Space to serve the concentration of residents within the center.

Public and Civic Standards

1. Public and Civic Uses shall be integrated into the community with maximum visibility and accessibility.
2. Planned transit stops shall be provided at all Public and Civic buildings.
3. Prominent and highly visible sites should be prioritized for Civic and Public uses. Prominent sites include a location along a primary pedestrian street or at the terminus of a street vista.

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4. Parks and Open Spaces should be considered in combination with public and civic buildings that include seating areas, public art, planted beds, benches, drinking fountains, etc.

Landscaping Standards:

1. Landscaped areas should be used to frame and soften structures, to define site functions, to enhance the quality of the environment, and to screen undesirable views.
2. Tree and plant selection and location should promote safety and security, enhance natural environment and stormwater management, provide shade for vehicles and pedestrians, reduce heat islands, and minimize maintenance requirements.
3. Low water use plants and native vegetation shall be used to landscape new developments.
4. No invasive plant species shall be allowed in the landscaping design.

Signage Standards:

1. Visitors and residents should be able to locate and identify major attributes of a development through a unified signage concept.
2. Signage should contribute to the overall architectural and landscape theme.
3. Signage should be used to clearly identify public versus private/residential areas.
4. Streetscape signage should be appropriately scaled for pedestrians.

SUSTAINABLE DEVELOPMENT

Sustainable development is the relationship between people, the built environment, management practices, and green infrastructure. Sustainable development calls for practices that are economically cost-effective, enhance human health and well being, and protect and restore the environment. The Route 28 Corridor Plan supports opportunities and incentives for sustainable development so that land development is at the forefront of such practices, including green building techniques and technologies which include sustainable site design and integrated energy management planning.. The Route 28 Corridor also includes older, developed areas that do not meet today's current stormwater management requirements. As a result, stormwater management facilities in these areas do not achieve adequate pollution filtration and control. Sustainable landscaping strategies can help correct these deficiencies and retain and treat stormwater, reduce stormwater runoff pollution, provide habitats for insects and migratory birds, and retain open space.

Given the diversity of Green Infrastructure within the Route 28 Corridor, the opportunity exists for development at full densities while promoting stewardship of natural areas. The defining natural feature of the corridor is the Broad Run, which drains to the Potomac River. The remaining forested lands in the corridor are primarily associated with the Broad Run and its

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floodplain. The Broad Run watershed also includes numerous streams, including Cabin Branch, Indian Creek, and various unnamed tributaries. The quality of these waters and the surrounding riparian areas are important not only to aquatic life and wildlife, but when integrated into development, can be an amenity for businesses, employees, and residents in the corridor. Other Green Infrastructure resources associated with the Broad Run include a heron rookery, the State-threatened Wood Turtle within upstream tributaries of Broad Run, and habitat along portions of and areas surrounding Bles Park.

Significant standing heritage resources in the Route 28 Corridor include the W&OD trail along with the Toll House and its associated Broad Run Bridge remnants, or Stone Bridge, both of which date to 1820. Other heritage resources in the area include portions of the Vestal's Gap roadbed, of which a small segment remains in the vicinity of the Dulles Town Center and a continuous segment survives through the Claude Moore Park. Archaeological village and encampment sites can also be expected at the confluence of major streams with smaller settlements expected along contributing streams. Other Green Infrastructure elements within the Route 28 Corridor include planned and existing trails, and noise contours associated with Washington Dulles International Airport. In addition, steep and moderately steep slopes are present, primarily within or adjacent to the stream valleys and surrounding the Loudoun Quarry.

Energy Policies

1. The County will encourage opportunities for efficiency through consumption, transmission and localized production. These opportunities can include increased building weatherization and system efficiencies, micro-grid development, and renewable/alternative energy installations.
2. The County will encourage benchmarking the energy use of existing and planned buildings in the Route 28 Corridor to establish a baseline for energy demand estimates in the corridor.
3. The County encourages localized, integrated energy management systems, such as recovery waste heat from high output uses like data centers to provide heating and cooling to nearby properties

   and promote the use of non-traditional energy sources.

Stormwater Policies

1. The County will encourage the harvesting of rainwater for non-potable use, such as landscape irrigation, within all projects.
2. To mitigate the effects of impervious cover within the Broad Run watershed and to update older stormwater facilities the County will encourage efforts such as retrofitting stormwater systems and rehabilitating degraded areas to enhance their pollution removal capabilities and enable these facilities to become open space amenities.

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3. The County promotes the use of low-impact development to replicate natural hydrologic patterns and alleviate the strain on centralized systems. Low-impact development practices can include stormwater planters, rain gardens, and wetlands to convey, retain, and treat rainwater.

Green Building Policies

1. The County will establish a green building program to assist the private sector in implementing the recommendations outlined in this plan.
2. The County will establish standards and promote green building within the Route 28 Corridor.
3. All county-constructed facilities shall be constructed to a minimum of LEED Silver, or equivalent standards.
4. The County will support Loudoun Water in the expansion of the reclaimed water network.

Landscaping Policies

1. The County encourages landscape approaches that conserve energy, treat stormwater runoff, minimize yard waste, control the spread of invasive species, and improve the health of site users.
2. The County promotes the use of salvaged materials whenever possible, restoration of degraded areas, the reintroduction of native vegetation, the use of street trees to reduce energy and stormwater treatment costs, and practices to decrease soil compaction and increase the soil's nutrient content and its ability to absorb water.
3. Habitat and recreational paths shall be encouraged along utility and abandoned rights-of-way and natural features such as streams and wetlands.

Green Infrastructure Policies

1. The Green Infrastructure is a critical framework of the corridor that will guide where and how development and redevelopment occurs. Green Infrastructure resources will be protected and enhanced.
2. The stream corridors associated with the Broad Run and its tributaries will be used as its primary organizing element. As the main organizing feature of the Route 28 Corridor, the Broad Run will be protected and enhanced to provide ecological benefits while being an amenity for employees and residents.
3. The Broad Run and its floodplain is envisioned to serve as a linear park that protects the river as a natural resource while integrating it into development as an amenity for businesses and their employees - including providing the opportunity for employees to bike and walk to work.

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4. The Broad Run's tributaries, including Cabin Branch, Indian Creek, Russell Branch, Beaverdam Run, Stallion Branch, and Horsepen Run, should be used as Green Infrastructure links that connect employment centers with neighborhoods and other hubs of activity both within and adjacent to the corridor, including parks, heritage resources, and Public/Civic buildings. Current and planned hubs include the Urban Center, Claude Moore Park, and the Toll House and Broad Run Bridge. Connections should include permeable recreational trails, similar to the C&O Canal Path.
5. Development activities should assess the condition of Green Infrastructure resources, enhance these resources, and create links to other areas to create a Green Infrastructure network.
6. For degraded forested areas close to the Broad Run and its tributaries, the County promotes reforestation.
7. The County will collaborate with the Department of Environmental Quality on any pollution impairment issues that become apparent within the Broad Run and its tributaries and will support volunteer water quality monitoring efforts and coordination of these efforts with federal, state, and local water quality data collection.
8. The County will support public access through the Broad Run floodplain using methods that protect sensitive features, including the use of pervious trail surfaces.
9. The County will coordinate with the Metropolitan Washington Airport Authority regarding water quality protection within the Broad Run watershed.
10. Unique heritage resources within the corridor, including the Broad Run Toll House and Bridge, the remaining segments of Vestals Gap Road, and the W&OD Trail should be preserved and considered in the design, construction, operations, and maintenance of development within the corridor. Preserving and enhancing these resources fosters an appreciation for their role in the built environment.

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IMPLEMENTATION

The Route 28 Corridor Plan envisions the corridor as an airport-anchored international gateway into eastern Loudoun County that supports significant job growth and economic activity within varied settings. The County also envisions the corridor evolving into a premier location for regional, national, and international businesses. The policies contained in the Route 28 Corridor Plan are therefore intended to induce development towards this vision. Expected outcomes include the acceleration of the timing and absorption of Class A office and an increase in the overall rate of commercial development in the corridor. This will also provide the revenue required for the County to meet or exceed the ability to pay Tax District Bonds. The Countywide outcome will be a growth in the commercial tax base; thereby improving the revenue balance

between commercial and residential, offsetting the greater costs of services for residential development, and relieving the tax pressure on County residents by maintaining an affordable real property tax rate.

The County will form a temporary Route 28 Implementation Committee of public and private experts to assist the County with the marketing, development and monitoring of the Corridor's strategic implementation plan, including the metrics used to assess the impact of the Route 28 Corridor Plan on expected outcomes. The Implementation Committee will establish three work groups related to plan implementation:

a. Design: The work group will assist with: the development of an illustrative design handbook and architectural standards for property owners and developers in the corridor, coordinate with the Zoning work group on the development of design regulations and performance standards as part of revisions to the Loudoun County Revised 1993 Zoning Ordinance, and identification and planning of high priority gateways, bridge enhancements, landscaping projects, and other roadway beautification efforts;

b. Zoning: The work group will advise the County with the development of the zoning mechanisms (regulations and performance standards) that will be used to implement corridor plan policies;

c. Transportation: The work group will assist with: Coordination with VDOT to develop priorities and implementation plans for road improvements that create better efficiencies and reduce traffic congestion within the corridor, develop guidelines for context-sensitive street designs, identify opportunities for greater bicycle, pedestrian, and transit accessibility from employment areas to existing and planned neighborhoods within and outside the corridor, identify additional locations for Route 28 bicycle and pedestrian cross-connections, including bridges and decks, which will decrease the barrier of the highway to bicycle and pedestrian movement, and develop Travel Demand Management strategies with assistance from the private sector to reduce the use of single-occupant vehicle trips and optimize transportation system performance during peak and off-peak periods.

Implementation Policies

1. The County will develop metrics, such as absorption rates and assessed values, to be used periodically to assess the impact of the Route 28 Corridor Plan on the expected outcomes as defined in the Plan.

2. The County will amend the Zoning Ordinance by developing Land Use Patterns as an alternative development option within specific Zoning Districts as well as create a new Mixed-Use Zoning District to implement the policies of this Plan. The County will

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establish a Coordinated Review Committee comprised of representatives from various County agencies to ensure consistency with the Use Pattern design controls and standards.

3. The County will develop a user-friendly, illustrative design handbook that reflects the Route 28 base design standards contained herein. The handbook will convey a high quality image for the Route 28 Corridor and promote an overall sense of place through design elements that relate to block size, circulation and connectivity, streetscape and street sections, building form, placement (setbacks), orientation, articulation, Parks and Open Spaces, Public and Civic uses, landscaping and sustainability.

4. The County supports the development of a Public/Civic Facilities Plan specific to the corridor that includes the identification and location of planned public facilities, including parks and open spaces, and civic uses unique to the corridor and at a scale that is compatible with planned development. Such a plan will also include the identification of mechanisms for development contributions of such uses off-site and within the Route 28 Corridor that may also count toward projects' required Parks and Open Spaces and Public and Civic use components.

5. The County will develop a "fine-grained" road network map of the corridor for the purpose of developing and implementing a preferred corridor street pattern to advise and guide proposed developments.

6. The County will explore opportunities to encourage the consolidation of existing smaller properties to promote more unified use patterns within the Route 28 Corridor. Potential incentives for lot consolidation include:

    a. Development intensity bonuses in the form of increased Floor Area Ratio (FAR) densities for developments initiating a lot consolidation to a certain minimum overall size, including different tiers of increased FAR bonuses based on the overall size of the consolidated parcels, location of the project site, and/or type of development proposed (Office Cluster, Mixed-Use Office Center, Route 28 Business) and

    b. Fee assistance and other financial incentives to encourage lot consolidation such as permit fee assistance (waivers, reduced fees, etc.)

7. The County will designate specific commercial revitalization target areas in the corridor and identify potential revitalization opportunities for property owners to upgrade under-utilized properties to their highest and best use, such as property tax abatements for real and personal property taxes over a specified time period and established a commercial revitalization program that provides financial assistance in the form of exterior rebates and commercial loans for physical improvements to commercial properties, including improvements to exterior building façades (storefronts, awnings, exterior lighting), renovations to correct code violations or improve handicap accessibility, etc.

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8. The County will develop potential opportunities and incentives to encourage legacy industrial businesses to relocate to designated industrial areas, including consideration of the following:
    a. County property acquisition to land bank properties within or proximate to the Route 28 Corridor for a planned Industrial Park;
    b. Development of an Incentive Zone that includes County investment in industrial park infrastructure, including roads and utilities, subsidizing a portion of the relocation costs; and
    c. Business tax relief such as property tax discounts over a specified time period or alternatively, a one-time tax credit for an industrial business within the Route 28 Corridor moving or expanding into an Incentive Zone.

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