CHAPTER II

LAND USE AND TRANSPORTATION
II. LAND USE AND TRANSPORTATION

A. OVERVIEW AND ISSUES

This chapter considers the environmental aspects of land use and transportation, both separately and as they relate to each other from an environmental perspective. As detailed in this chapter, the county has very little vacant land left. As the county approaches “buildout,” the focus of land use across the county is shifting from new development to revitalization and redevelopment. Each acre in the county becomes more valuable every day. The desire to maximize land utilization or productivity puts a strain on all types of land, from residential to commercial to parkland.

The Fairfax Comprehensive Plan is a forward looking document that shows how the county expects to grow and where new growth should occur. It is a living document and is continuously reviewed and amended to reflect changes in the built environment and county values and priorities. While the undeveloped land available across the county has decreased, the Plan potential has been increasing. The potential is the number of units that can be built in the county according to the current Plan. It changes as requests are evaluated and adopted by the board. Since 1989, there have been over 124,500 new townhouses and multifamily units and over 8,000 single family homes added to the Plan. This clearly demonstrates the increased intensity planned for the county.

At the same time, transportation systems across the county and metropolitan region are becoming increasingly congested. During rush hour, most highways in the county receive a failing grade for peak hour level of service. Over the past 15 years, highway construction in the Washington area outpaced population growth, yet congestion has still increased. This is due to increased per capita vehicle mileage that puts severe strains on the transportation infrastructure. According to the Texas Transportation Institute, our region is the most congested in the country. In 1982, the average metropolitan resident spent 16 hours in congestion; by 2011 the number increased to 67 hours and by 2014 Washington DC-VA-MD had the nation’s worst congestion at 81 wasted hours per commuter annually.

From 2012 to 2015 the county underwent several transportation mega-projects, including the Dulles Rail, I-495 Express Lanes and I-95 Express Lanes project. These projects are visible to anyone who moves about the county. The impact they will have on transportation is still to be seen, but they have potential to transform how large numbers of people move about the county. The intersection of Metrorail and the new Tysons Corner plan are examples of transitional thinking that combines land use and transportation into a new planning paradigm for the county. Tysons Corner now has four new Metrorail stations in an urban core that has

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1 “Where We are Growing”, Southern Environmental Law Center, 2002
plans to increase the number of residents from 17,000 to 100,000 and double the number of jobs from 100,000 to 200,000.

The I-495 Express Lanes and the I-95 Express Lanes are a more traditional approach to increase capacity of highways. The unique aspect of these projects is congestion demand pricing to control the amount of congestion on express lanes. There is a potential to get environmental benefits by providing transit options using the express lanes, because transit moves more people per vehicle and the congestion pricing should allow transit to run on a predictable schedule. On the other hand, the extra capacity down I-95 may induce development outside the county with the associated commuting to the county that increases the vehicle miles traveled, which is a negative environmental impact.

Public transportation systems are becoming increasingly important to the county and region. Metrorail is the second largest rail transit system and Metrobus is the fifth largest bus network in the nation. Every day Metro carries nearly 20 percent of all rush-hour trips in the metropolitan area, carrying as many people each day as 1,400 miles of new traffic lanes — equivalent to an 11 percent expansion of the region’s road system. From a purely environmental standpoint, Metrorail and Metrobus eliminate more than 10,000 tons of pollution each year and save the region from using 75 million gallons of gasoline each year.4 Public transit is clearly an important part of the future.

The buildout of the county’s land use plan combined with the overload of the transportation infrastructure will continue to increase as the county population increases. In 2006, the county released a comprehensive demographic study, Anticipating the Future: A Discussion of Trends in Fairfax County5. The report presents needed data to plan for the future and incorporate future population and trends. It points out that higher density residential development in Fairfax County and its neighboring jurisdictions will increase traffic congestion. This density, however, will make public transportation alternatives more viable.

As noted throughout this Annual Report, pressures from growth throughout the county directly affect the environment and consequently affect quality of life, health and natural experiences. The Comprehensive Plan specifically provides strategies and practices that can address land use and transportation together. The Office of Community Revitalization is applying these approaches to develop mixed-use projects that combine residential and commercial development to “enhance the sense of community” and to “increase transportation efficiency.” It provides an opportunity for residents to live and work in the same area, thus reducing transportation needs while increasing the population density to support local businesses and mass transit.

The Board of Supervisors highlighted the effects of growth and congestion in its vision paper: Environmental Excellence for Fairfax County, A 20-Year Vision6. A variety of tools were emphasized, including mixed use development and low impact development. In

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6 [www.fairfaxcounty.gov/living/environment/eip/bos_environmental_agenda.pdf](http://www.fairfaxcounty.gov/living/environment/eip/bos_environmental_agenda.pdf)
addition, problems that at first seem tangential to the environment, such as neighborhood disruption through tear-down development and low income housing, were raised. Teardowns are common across the county, as single family homes are replaced with larger homes. The lack of low-income housing means workers cannot afford to live and work in Fairfax County and need to commute from outside the county, which exacerbates problems of both pollution and congestion. Furthermore, this situation skews the affordable housing debate, because it undercounts the number of households needing affordable housing across the metropolitan region.

In summary, the county faces great challenges from the combined effect of:

- Land use constraints that result from reaching build-out and transitioning from a growth focus to redevelopment.
- Transportation systems strained by congestion and getting further constrained by sprawl beyond the county.
- Population growth that will require additional residential and commercial facilities and transportation options.

Over the past 15 years, the county has made great strides in integrating land use and transportation planning and decision making. Environmental stewardship and high quality of life demand a holistic systems approach to the inevitable urbanization of Fairfax County. The silver lining is that urbanization, to be sustainable – environmentally, socially and economically – demands the same.

1. Comprehensive Plan and Zoning Ordinance

The Fairfax County Comprehensive Plan\textsuperscript{7} and Zoning Ordinance\textsuperscript{8} are the primary documents that guide decisions and specify legal requirements for developing projects in the county. The Comprehensive Plan is forward looking and shows how the county expects to grow and where new growth should occur. The Zoning Ordinance contains legal regulations for building in the county. This report has primarily focused on the Comprehensive Plan and the environmental impacts of future strategic plans.

The Comprehensive Plan is a living document and changes to the plan are carefully considered. Prior to 2012, the Plan was reviewed every five years through an Area Plans Review (APR) process. Starting in 2012 the county transitioned to the Fairfax Forward process that is more responsive and holistic for strategic planning. This change was necessary for several reasons including:

- Mixed use centers needed comprehensive focus, such as was done for Tysons Corner. The APR process was opportunistic based on development opportunities, not

\textsuperscript{7} \url{www.fairfaxcounty.gov/dpz/comprehensiveplan/}
\textsuperscript{8} \url{www.fairfaxcounty.gov/dpz/zoningordinance}
comprehensive based on community goals, so special planning was necessary to augment APR.

- Too many changes were requested “out of turn,” so that the cycle was not being followed consistently.

- Staff resources were being stressed managing the APR and special processes while also supporting out of turn plan requests.

Fairfax Forward has been very effective, delivering on a predictable work plan and keeping the Comprehensive Plan current. Fairfax Forward products cover three types of amendments:

1. Area-wide amendments cover larger areas that may cross districts and involve significant analysis.
2. Site specific amendments are more focused on specific parcels, yet still involve community input and engagement.
3. Policy amendments cover overarching policy goals for the county.

The process also includes significant public education, outreach and engagement. The Fairfax Forward website is very informative and includes mapping tools to drill into the area projects. The transition process included a three year review that assessed any concerns with the new approach. Based on that review, the Planning Commission indefinitely deferred the Fairfax Forward work plan review and asked staff to revise the process.

Tysons Corner is the only urban center identified in the Comprehensive Plan. This designates Tysons as having the most density and highest concentration of work and residential utilization. Tysons Corner underwent an extensive review from 2005 to 2010 in order to prepare for Metrorail and the associated changes and opportunities that Metro provided to create a true multi-modal new urban environment. The scale of transformation planned for Tysons Corner required new and creative approaches. The Board of Supervisors convened a task force that represented a wide swath of stakeholders. It included developers, landholders and residents, as well as advocates for neighboring communities, distant communities, affordable housing, the arts, the environment, transportation, biking, accessibility and others. The task force worked together with assistance from county staff, a world-recognized urban design firm, experts in transportation and modeling and advisors on communications. Technology was incorporated throughout the process with models and digital mockups that showed massing and expected growth projections.

The Tysons plan went from a visionary document in 2010 to a full scale city rebuilding project that is indeed becoming the new downtown for Fairfax County. The transformation is unfolding everyday with new construction, businesses and residents that inhabit Tysons Corner. As the development continues, it is important that mechanisms
be adopted to monitor the macro effects and provide mitigation options to make sure the reality aligns with the vision.

Fairfax Forward adopted the approach used in Tysons Corner with a holistic focus on other areas of the county that are undergoing change and revitalization. We are pleased to see that the Fairfax County Park Authority has collaborated in the Fairfax Forward process through the Great Parks, Great Communities Park Plan\(^9\). The holistic approach across agencies and the community aligns with the interconnectedness of development in a built-out county.

2. Trends and Concepts

Several essential concepts that may be incorporated are described in the following sections. These concepts reflect the interconnections of land use and transportation, as well as factors such as housing, economic development and quality of life.

a. Sustainability

The most holistic of the concepts is sustainability. The U.S. Environmental Protection Agency’s website\(^10\) defines sustainability as follows:

*The traditional definition of sustainability calls for policies and strategies that meet society’s present needs without compromising the ability of future generations to meet their own needs.*

The 1970 National Environmental Policy Act (NEPA) formally established as a national goal the creation and maintenance of conditions under which humans and nature “can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans” [underline added].

The concept of sustainable development was described in a 1981 White House Council on Environmental Quality report: “The key concept here is sustainable development. If economic development is to be successful over the long term, it must proceed in a way that protects the natural resource base of developing countries.”

Over the past 30 years, the concept of sustainability has evolved to reflect perspectives of both the public and private sectors. A public policy perspective would define sustainability as the satisfaction of basic economic, social, and security needs now and in the future without undermining the natural resource base and environmental quality on which life depends. From a business

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\(^10\) [www.epa.gov/sustainability/basicinfo.htm](http://www.epa.gov/sustainability/basicinfo.htm)
perspective, the goal of sustainability is to increase long-term shareholder and social value, while decreasing industry’s use of materials and reducing negative impacts on the environment.

Sustainability harmonizes the concepts of Sprawl and Smart Growth. Sprawl is the very evident unrestricted growth out from the core of a city or a county. In the 1970s, Fairfax was one of the nation’s fastest growing counties. Today that rapid growth is happening beyond Fairfax County, in Loudoun and Prince William counties. As of 2003, Loudoun County was the fastest growing county in the nation, averaging 12.6 percent growth per year. This outer county sprawl directly affects Fairfax County through increased road congestion, changing property values and inefficient use of Fairfax County’s infrastructure.

Establishing a community definition of sustainability can focus understanding of the concept. The City of Alexandria has a detailed plan that it is currently executing—it is the model that Reston is currently following. Supervisor Hudgins has pointed to the sustainable communities program developed by the Obama administration. The program livability principles are available at: www.sustainablecommunities.gov/mission/livability-principles.

Smart growth is the antithesis of sprawl; it can be defined as environmentally sensitive land development with the goals of minimizing dependence on auto transportation, reducing air pollution and making infrastructure investments more efficient. The Coalition for Smarter Growth lists the following principles for Smart Growth:

- Mix land uses.
- Take advantage of compact building design.
- Create housing opportunities and choices.
- Create walkable communities.
- Foster distinctive, attractive communities with a strong sense of place.
- Preserve open space, farmland, natural beauty and critical environmental areas.
- Strengthen and direct development toward existing communities.
- Provide a variety of transportation choices.
- Make development decisions predictable, fair and cost-effective.
- Encourage community and stakeholder collaboration in development decisions.

Reston and the Orange Line corridor through Arlington are good examples of smart growth.

b. New Urbanism and Form-Based Codes

New Urbanism is a design movement that is going beyond smart growth into community building based on traditional urban centers. New Urbanists strive to
improve land use by focusing on walkable communities and town centers. A walkable community reduces the distance between where people are and where they want to go.

An important New Urbanist concept to encourage consistent planned development in a community is called “form-based codes.” These codes define an appropriate form of development, that is, how it should look rather than function (for example, how a building looks rather than its use for commercial or residential purposes). Such codes also provide incentives for developers to adopt them. Form-based codes provide clear direction on the adopted vision, with incentives such as expedited review and approval process for developers to adopt the form. The Form-Based Codes Institute has a wealth of information, including the following graphic that compares traditional and form-based codes guidance:

While not a code, the form-based concept has been applied in Comprehensive Plan guidance for the Annandale Community Business Center.

c. Development Concepts

More specific concepts apply to particular situations. Infill and clustering are ways to increase density in a neighborhood. Infill is the process of filling in larger lots with multiple or larger housing and is a technique to reduce urban sprawl. Infill development can provide new housing or commercial development on vacant or underutilized sites within developed areas, taking advantage of existing infrastructure. While infill provides increased land utilization, it also has the potential to increase the environmental impact upon the infilled community. Particular concern should be paid to the impacts of infill, such as increased stormwater runoff and heating due to additional impervious surface and loss of tree canopy.

Clustering provides residential development that allows homes to be built close together with the remaining acreage left as open space in perpetuity. Generally,

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12 [http://formbasedcodes.org/definition](http://formbasedcodes.org/definition)
homes are sited on smaller lots, with the remaining land dedicated to open space. In most cases, the density of homes in a cluster development is the same as what would have been built on the entire site; the development is just configured differently. The challenge with clustering is the lack of public trust that the open space will remain open.

Multimodal transportation refers to a transportation strategy that incorporates multiple forms of transportation. Multimodal transportation encourages the use of walking, biking or public transit for transportation instead of the sole use of the automobile. The use of multimodal transportation involves an increase in the accessibility of all transit options as well as the increase in transportation options.

Transit oriented development or design is another approach to creating walkable, livable communities. TOD encourages increased multi-use density around transit centers. The goal of TOD is to promote walking, biking or transit as a means of getting to work or the store instead of by car. By focusing development around transit centers, ideally communities will have increased transit ridership, less traffic, reduced pollution and a better quality of life.

Transportation demand management is typically associated with a TOD proposal. TDM is a plan to reduce automobile trips that cause congestion. Some elements of a TDM plan include easier and safer pedestrian access, local amenities and shuttle service.

Low impact development is an approach that reduces the impact of development on a site. The goal of LID is to better integrate the natural environment with the built environment. LID techniques are intended to mimic an area’s natural hydrology to manage stormwater on site, thereby reducing adverse downstream impacts. For example, LID will reduce the amount of impervious surface on a site and reduce the amount of stormwater runoff leaving the site. LID tends to be relatively economical and is flexible enough to be applied to different types of landscapes.

Green building is another approach to lowering the impact of development by designing structures to conserve resources and using technology that is more efficient. Green roofs can be built with succulent plant gardens that absorb water during rain storms and gradually release it back to dramatically reduce runoff and stream pollution. One of the first green projects in the county was the green roof at the Providence District Supervisor’s office. The county has established green building policies for both capital projects and private sector development.

14 Low Impact Development Center at: www.lid-stormwater.net/background.htm
High occupancy toll Lanes are a tool to ease traffic congestion in urban areas. The idea behind HOT lanes is to open High occupancy vehicle lanes up to single occupant vehicles that pay a toll. The price of the toll varies, depending on the time of day and amount of traffic. An additional benefit of HOT lanes is that they can provide additional revenue to pay for other transportation improvements\(^\text{15}\), such as rebuilding aging bridges over the Beltway.

3. Macro Considerations

Many decisions in the county that affect land use and transportation are made on a micro level. That is, they affect a single parcel or neighborhood. The macro effect of many small changes has a great impact on the county environment. These macro consequences are lost in the day-to-day planning and construction that happens across the county. As higher densities and infill occur, their effects are cumulative and significant. For example:

Small neighborhoods with stable environmental footprints are being transformed with larger houses. These newer houses bring additional impervious surface through larger roofs and additional pavement. They also displace trees that protect the parcel with a green canopy, which provides shade, air cleansing and light dampening, and provide haven for birds and wildlife. While the effect of a single home is small, the macro effect on community channels more runoff and pollution into the watershed, increases the ambient temperature and displaces wildlife.

Large scale development, such as that contemplated by the ongoing special studies, brings additional residential and commercial density to a region. By including all facets of a large scale development impact into a special study, the increased density can be combined with infrastructure investments that improve the community and environment.

a. Understanding Macro Changes

These macro effects are going to become more pronounced with the county buildout and change from development to redevelopment. The lessons learned from special studies and from the results of similar projects across the nation need to be incorporated into our planning process. Up to now, regional aggregations and averages were sufficient to predict development impacts. The Concept Map for Future Development, included in the Comprehensive Plan, has done a good job of guiding decisions and projecting impact at a broad macro level. Moving into the future, tools are necessary to provide a finer resolution of real time changes that can be quickly aggregated into a macro view.

These new tools should combine the county’s geographic information system capability with the existing planning and zoning databases. The data are readily available at a parcel level, but the ability to view the data and use the data to model macro effects is not possible. Understanding and modeling the macro changes happening across the county will help provide insight to the Board of Supervisors and Planning Commission as they deal with micro decisions.

b. Creative Approaches

The county also needs to consider creative approaches to address these macro effects. One way to avoid macro consequences is to reduce the impact of micro decisions. For example:

- Modifying the Public Facilities Manual to encourage Low Impact Development can protect streams and mitigate the micro impact of infill development.
- Providing incentives for green roofs can protect streams and decrease heat generation from asphalt roofs. This encouragement will be a win-win for the county and for developers.
- Utilizing transportation demand management plans mitigates unforeseen impacts of development. The TDM plan included in the Fairlee/Metro West rezoning set the standard for TDM in the county.
- Continuing to develop comprehensive plans for multi-modal transportation alternatives can reduce transportation impacts of additional density. The pedestrian and bicycle programs are excellent examples of building a long term strategy that can be implemented as opportunities arise.

These creative approaches begin to mitigate micro changes that combine into unexpected and often unintended larger problems.

c. Additional Macro Considerations

The sections above focus on changes caused by development and redevelopment. There are also macro effects generated by non-development changes, such as work patterns, mixed-use opportunities and economic considerations that affect the county environment.

Telecommuting, or telework, reduces or eliminates the traditional commute to the office. Teleworkers work from home or at local work centers that provide infrastructure for a community of workers. This reduces pressure on the transportation network without building physical infrastructure. The county has an aggressive telework program in place for county employees.

Mixed-use development brings work, play and home closer together, reducing the distance for trips and commutes. Mixed use is proliferating across the county, providing economic growth with less congestion than traditional separated communities.
Economic factors, such as increasing or decreasing property values, also affect the overall county environment. Low-income residents are struggling to find affordable housing near their jobs in the county and frequently choose to live outside the county. This negatively impacts the transportation system. As property values rise, homeowners choose to expand their residences rather than relocate. As they decrease, the tax base shrinks, adversely affecting such quality of life factors as a healthy environment, excellent schools and functional transportation systems, which may send communities into decline.

The Board of Supervisors has specifically raised affordable housing and infill development as an environmental concern in its Environmental Vision.

Macro considerations need to be better understood and modeled as the county increases in density. Traditional models did not need to consider macro changes, and the resolution and quality of data is insufficient for planning and protecting the environment. Dealing with the proliferation of small changes across the county will take creative approaches using all available tools, including the Comprehensive Plan, the Public Facilities Manual, special ordinances and public outreach.

B. LAND USE

Land Use and Transportation will be examined separately in this and the next section; they will then be discussed with respect to their systemic interrelationships in section D. The information for this section was identified in the Fairfax Forward work program and presented to the public through the State of the Plan—An Evaluation of Comprehensive Plan Activities Between 2000-2010 and the Comprehensive Plan amendments that updated the Comprehensive Plan and the Concept for Future Development Map. The underlying data are primarily stored in the Integrated Parcel Lifecycle System.

1. How Is Land Used In Fairfax County?

As of January 2013, Fairfax County had 227,873 total acres of land, excluding areas in roads, water or small areas of land unable to be zoned or developed. Those acres are organized into the broad categories identified in Figure II-1.

- Residential—acres dedicated to living. Residential acres are measured by the number of dwelling units per acre. For example, a low-density neighborhood has a DU/AC from .1 to .5, a suburban neighborhood ranges from 1-20 and an urban center has a core DU/AC of 35-60.

16 Staff Report for Plan Amendment S11-CW-2CP, April 26, 2012
• Commercial/Retail—acres developed for people to work or shop. Commercial space is measured by looking at the Floor Area Ratio, which is the ratio of gross floor area to the size of the lot. For example, an FAR of 0.5 means that a single story building can cover half the lot, a two-story building can cover 1/4 of the lot and a four-story building can cover 1/8 of the lot. FAR does not include other impervious surfaces, such as parking lots.

• Industrial—acres zoned for industrial use. Industrial space is measured by FAR.

• Parks and Recreation—acres dedicated to public enjoyment and recreation.

• Public—acres owned by the public but not for parks or recreation. This includes: Fort Belvoir; Dulles Airport; the campus of George Mason University; county government facilities such as fire stations, landfills, police stations, training facilities, schools and government centers; and other publicly-owned properties.

• Vacant—acres currently unused, either natural or vacant, but zoned for residential, industrial or commercial uses.

### Figure II-1: Land Uses in Fairfax County

| Acres of Land by General Land Use Category -- January 2013 |
|-----------------|---------------------------------|
| Public          | 15,361                          |
| Industrial      | 11,601                          |
| Residential     | 33,457                          |
| Parks and Recreation | 10,148                      |
| Commercial      | 25,433                          |
| Vacant and Natural Uses | 131,873                   |

Source: Fairfax County Department of Neighborhood and Community Services, 2013
[www.fairfaxcounty.gov/demogrph/find_by_topic.htm](http://www.fairfaxcounty.gov/demogrph/find_by_topic.htm). Note: Land in Towns of Clifton, Herndon and Vienna included. Total acreage figures do not include areas in roads, water or small areas of land unable to be zoned or developed.

2. **Land Use Planning**

The Fairfax County Comprehensive Plan is required by state law to be used as a guide in decision-making about the built and natural environment. Major revisions took place in
1975 and 1991. The 1991 Plan, which was the foundation for the 2013 edition, was developed around 18 Goals for Fairfax County (a 19th goal was added later). From 1991 through 2013, updates to the Plan were vetted through an Area Plans Review process with public participation in each district. By 2013, it was realized that the process was not sufficient for a growing county facing build-out and transitioning from development to redevelopment and revitalization. EQAC was one of the advocates for a more comprehensive and consistent process. Fairfax Forward is the new process that focuses and aligns resources on priority projects. This approach is working well and includes checkpoints to monitor and improve the process over time.


The current edition of the Fairfax County Comprehensive Plan consists of several components. The Policy Plan outlines the objectives, policies, and guidelines to guide planning and development review considerations toward implementing county goals. The goals address the future development pattern of Fairfax County and protection of natural and cultural resources for present and future generations. The four Area Plans (Area I, Area II, Area III, and Area IV) identify key elements for implementing the Policy Plan's goals and objectives at the more detailed Planning District and Community Planning Sector levels. The Comprehensive Plan Map illustrates planned land uses, transportation improvements and public facilities with the Countywide Transportation Plan Map and the Countywide Trails Plan Map providing a detailed view of those respective elements of the Plan.

The Policy Plan functional sections and website links (all accessible from www.fairfaxcounty.gov/dpz/comprehensiveplan/policyplan/) are:

- Land Use
- Transportation
- Housing
- Environment
- Economic Development
- Heritage Resources
- Public Facilities
- Human Services
- Parks & Recreation
- Revitalization
- Visual and Performing Arts
- Chesapeake Bay Supplement

The Policy Plan is reviewed by functional sections. The Parks and Recreation section was reviewed in 2003. The Transportation Section was reviewed in 2005 with recommendations presented in 2006. A comprehensive review of the complete Policy Plan is not anticipated in the future due to the overall complexity of the complete document.
a. The Fairfax Forward Review Process

Fairfax Forward was adopted on July 9, 2013 by the Board of Supervisors to replace the prior Area Plans Review process. The centerpiece of the process is a Comprehensive Plan Amendment Work Program through which current and future planning studies are considered. A multi-year calendar identifies planning activities contemplated beyond the three-year work program; this calendar informs future reviews of the work program.

The board action establishing Fairfax Forward included a review after two years of the efficiency, effectiveness, accessibility and impact of the new process and pilot work program. This review is underway and as of May 25, 2016, the Planning Commission indefinitely deferred Fairfax Forward pending further review. Staff presented a status report to the Planning Commission’s Land Use Process Review Committee on September 15, 2016.

The Board of Supervisors has acted upon 36 studies since the work program was adopted in July 2013. A general description of each adopted amendment and the adopted Comprehensive Plan guidance can be found at: www.fairfaxcounty.gov/dpz/comprehensiveplan/planadopted.htm

Adopted amendments of particular interest to the environment are:

- Bicycle Master Plan: Recommended bicycle facilities and policies to guide the development of bicycle infrastructure throughout Fairfax County.

The Fairfax Forward process currently has five major area-wide studies underway, 16 site-specific or transportation related amendments are being reviewed and two amendments related to countywide policy are under review. Information about each effort is posted on the county website at: www.fairfaxcounty.gov/dpz/fairfaxforward/

b. Special Planning Areas / Concept for Future Development

The Comprehensive Plan specifies that Fairfax County should seek to establish areas of community focus which contain a mixture of compatible land uses providing for housing, commercial, institutional/public services and recreation and leisure activities. These areas were first identified on the Concept Map for Future Development that was published in 1990. The map was revised in 2012 to reflect changes in the Plan potential and align with amendments since 1990. This updated
map identifies 30 mixed-use centers, which are the focus for change in the county (Figure II-2).

These special mixed-use centers enhance the sense of community and reduce the need to travel long distances for employment and/or services. The 29 mixed use areas are categorized as:

- Tysons Corner Urban Center.
- Suburban Centers.
- Community Business Centers.
- Transit Station Areas.

These areas are where the focus of development will occur and where the new Plan potential is created. From an environmental perspective, these areas have the most potential to change the environmental performance of the county. New development should conform to the current guidelines, which are:

1. More energy efficient with green building design.
2. More transportation efficient by providing work/life proximity and multi-model transportation opportunities.
3. More water efficient with better stormwater management practices and less impervious cover.

c. **District Planning Processes**

Several supervisor districts have advisory boards or committees to advise on changes to the Plan within the district. One of the most unique is the Lee District planning process that has been in place since 1976. This interjects a step before the public hearing at the Fairfax County Planning Commission. All land use cases (rezonings, special exceptions and changes to the Comprehensive Plan) are presented to the Lee District Land Use Advisory Committee. The committee asks questions, makes comments, etc. When all the information is available, the committee votes to either recommend approval or denial of the application. The Lee District Planning Commissioner participates in these meeting and typically supports the committee decision at the Planning Commission public hearing.
Figure II-2: Concept Map for Future Development
CONCEPT FOR FUTURE DEVELOPMENT MAP

LOCATIONS OF MIXED-USE CENTERS

Urban Center
1. Tysons Corner

Suburban Centers
2. Centreville
3. Dulles (Route 28 Corridor)
4. Fairfax Center
5. Flint Hill
6. Lorton-South Route 1
7. Merrifield
8. Reston-Herndon

Community Business Centers
9. Annandale
10. Baileys Crossroads
11. Beacon/Groveton
12. Hybla Valley/Gum Springs
13. Kingstowne
14. McLean
15. North Gateway
16. Penn Daw
17. Seven Corners
18. South County Center
19. Springfield
20. Woodlawn

Transit Station Areas
21. Dunn Loring
22. Franconia/Springfield
23. Herndon-Monroe
24. Huntington
25. Reston Parkway
26. Route 28/CIT
27. Van Dorn
28. Vienna
29. West Falls Church
30. Wiehle Avenue

LOCATIONS OF LARGE INSTITUTIONAL AND INDUSTRIAL AREAS

Industrial Areas
31. Beltway South
32. I-95 Corridor
33. Ravensworth

Large Institutional Land Areas
34. Fort Belvoir (Main Post and North Area)
35. George Mason University
36. Washington Dulles International Airport

LEGEND

- Tysons Corner Urban Center
- Suburban Center
- Community Business Center
- Transit Station Area
- Industrial Area
- Large Institutional Land Area
- Suburban Neighborhood
- Low Density Residential Area
- Major Road
- Metro Station
3. Zoning

Planning and zoning are both necessary in the development process. The Comprehensive Plan is required by state law to be used as a guide in decision-making about the built and natural environment. The Zoning Ordinance is intended to implement the adopted comprehensive plan for the orderly and controlled development of the county. While the plan describes what should be developed, the zoning codifies what legally can be built. Zoning defines the requirements that affect all aspects of a development, including land use and transportation. The Zoning Ordinance is regularly reviewed through the Zoning Ordinance Amendment Work Program (ZOAWP). There are several important changes being considered for 2016 that affect the environment.

1. **Open Space.** Staff is reviewing the open space definition to determine if clarification is necessary and whether the methodology used in open space calculations should be modified. Under consideration is whether open space credit should be given for an unenhanced dry pond, as these facilities are generally considered undesirable from a usable open space and visual perspective. Also being considered is whether streetscape should be counted as open space, as such linear areas may not function as useable open space.

2. **Planned Development Districts.** Increase in FAR - PDC and PRM Districts. An important environmental change relates to Planned Development Districts. The proposed changes, which were adopted by the board on June 21, 2016, are intended to establish implementation tools related to the Comprehensive Plan changes for transit station areas and revitalization areas, which are planned for high intensity development. Among other things, the amendment has established a 3.0 maximum FAR in the McLean Community Revitalization District (CRD) and Community Business Center (CBC) and a 5.0 maximum FAR in all other CRDs, CBCs and Transit Station Areas in the PDC and PRM zoning districts. Concentrating commercial and residential development in conjunction with the use of mass transit and in walkable mixed used developments assist in achieving environmental goals by reducing air pollution caused by automobiles and traffic congestion, reducing energy consumption required to operate motorized vehicles and creating a framework that supports personal mobility.

A number of issues pertaining to the planned development districts were also under consideration. These include additional submission requirements to obtain detailed information on the existing site, proposed development and the surrounding area; and modifications to the purpose and intent sections and general and design standards to place a greater emphasis on environmental protection and tree preservation.

3. **Parking Reductions in Transit Oriented Areas.** Parking minimum and maximums are used to reduce energy consumption, improve air quality, reduce the amount of impervious surfaces and encourage the use of mass transit. Parking minimums are traditionally used to mandate sufficient parking is built. Parking maximums are a smart growth technique to give developers more flexibility when building space for
automobiles. The current focus is to consider a reduction of the minimum parking requirements due to Metrorail, bus route and other mass transit options such as streetcars.

Parking maximums were part of the amendment that created the Planned Tysons Corner Urban District (PTC) on June 22, 2010. The modification and clarification of parking reduction regulations was considered as part of the PDC/PRM Districts and Other Modifications Amendment, which was adopted on June 21, 2016. The Zoning Ordinance had allowed for parking reductions by up to 20 percent in Commercial Revitalization Districts, but for nonresidential uses only. The Zoning Ordinance amendment expanded the 20 percent reduction to residential uses as well, provided the reduction can be justified. Furthermore, the amendment will clarify that bus stops and bus routes can be used to request a parking reduction, if it is demonstrated that routes and stops are regularly scheduled and link to other transit opportunities.

4. Agricultural Districts/Uses. A review of the zoning districts that permit agriculture is needed in light of changes to the State Code that limit local regulation of agricultural activities, including farm wineries, farm breweries, farm distilleries and agritourism/recreational activities. Given such uses can increase traffic, reduce water quality and cause noise pollution, it should be determined which zoning districts are appropriate for these agricultural activities and whether additional standards should be considered to address potential impacts to health, safety and welfare.

4. Land Use History and Buildout Projections

The Comprehensive Plan contains land use recommendations for all of the land in the county. When the concept plan was conceived in 1990, there was a significant amount of vacant land, so it could address changes across the county. That vacant land has been steadily decreasing as shown in Table II-1. In 2013, with only approximately 6.1 percent vacant and much of that fragmented, the decisions are much more constrained. Significant planning changes require decisions that will most likely affect existing developed land.

5. The State of the Plan, 2000-2010

The aggregate acreage available in the county is relatively constant, with occasional changes as land is converted to other uses, such as roads and drainage ponds. The Comprehensive Plan capacity, however, is constantly increasing as new density is allocated across the county. This occurs primarily by increasing the Floor Area Ratio and allowing higher buildings to be built that have additional capacity in the same acreage.
Table II-1
Vacant Land in Fairfax County

<table>
<thead>
<tr>
<th>Year</th>
<th>Vacant Land (acres)</th>
<th>Total Planned Land (acres)</th>
<th>Percent Vacant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>75,550</td>
<td>234,744</td>
<td>32.2 percent</td>
</tr>
<tr>
<td>1985</td>
<td>66,685</td>
<td>232,941</td>
<td>29.2 percent</td>
</tr>
<tr>
<td>1990</td>
<td>45,042</td>
<td>230,678</td>
<td>19.5 percent</td>
</tr>
<tr>
<td>1995</td>
<td>37,006</td>
<td>229,366</td>
<td>16.1 percent</td>
</tr>
<tr>
<td>2000</td>
<td>29,529</td>
<td>228,541</td>
<td>12.9 percent</td>
</tr>
<tr>
<td>2007</td>
<td>17,117</td>
<td>228,240</td>
<td>7.5 percent</td>
</tr>
<tr>
<td>2010</td>
<td>14,943</td>
<td>227,228</td>
<td>6.6 percent</td>
</tr>
<tr>
<td>2013</td>
<td>13,770</td>
<td>226,983</td>
<td>6.1 percent</td>
</tr>
</tbody>
</table>

Planned land does not generally include public roads and water

Note: Some of the decrease in vacant land between 2000 and 2007/2010/2013 is due to a change in the definition of vacant land. Areas previously classified as vacant but owned by tax exempt entities such as houses of worship and private schools are no longer included as vacant land.

Source: Fairfax County Department of Systems Management for Human Services (IPLS), 2007 and Fairfax County Department of Neighborhood and Community Services, 2010 and 2013

In 2012 the county published a comprehensive review of changes to the Plan over the past 10 years. The study notes that “Between 2001 and 2010, there were a total of 284 amendments adopted to the Area Plans. Of these, 221 or 78 percent were located in the county’s activity centers.” As changes are made to the Plan, the key metric available for growth is the Plan potential. This tracks the amount of space that can be built. The increase over the past 20 years is shown in Figure II-3. With the observation that the county is close to build-out, with only 6.1 percent vacant space available, the Plan potential increases through redevelopment that allows bigger and taller buildings that are closer together. In the residential sense, this means more multi-family complexes. In the nonresidential space, it means higher office buildings with multiple uses.

As part of the State of the Plan review, the authors identified several themes that emerged from all 284 Plan amendments. These themes are:

1. Encouragement of Intensity and Land Use Flexibility in Mixed Use Centers.
3. Avoid Re-Planning Industrial Areas.
4. Expansion of Medical Facilities.
5. Revision of Policy Plan Regarding Acquisition of Land for Public Parks.
The themes and trends clearly show that Fairfax County can continue to grow and accommodate new population and businesses into the future. But as we grow, important values are reflected in how and where that growth occurs. The most valuable areas for growth are mixed-use centers. These have been identified in the Plan and infrastructure has been planned to support these areas. At the same time, we are focused on protecting residential neighborhoods. The ability to have high density development in close proximity to low density residential is an emerging pattern that is very effective when planned near Metrorail stations. The area most adjacent to the Metrorail stations is ideal.
for high density. Surrounding neighborhoods have the advantage of a vibrant neighborhood that is nearby while residents of high density developments can adopt a more urban lifestyle that has amenities and opportunities within walking distance. Examples of this pattern are nearby in the Arlington Orange Line corridor, but they are also happening in Fairfax County.

Industrial and medical themes highlight different priorities. Medical services are desired by the population as it grows both in number and age. Industrial areas are important to support the infrastructure; these include landfill, quarry and other uses. By focusing development in the mixed use areas, it is possible to maintain industrial uses in the face of increasing Plan potential. The amendments to the Plan allow industrial uses to be viable as growth continues, without many of the conflicts that happen when residential uses encroach on industrial areas, which otherwise would force industry to relocate further out.

Parks and environmental themes reflect the value that the residents place on these resources. The Fairfax County Park Authority has and deserves a place in comprehensive planning. Among the important environmental initiatives over the past 10 years were the adoption of the county’s watershed management plans and the augmentation and clarification of the Environmental Quality Corridor policy to preserve ecologically sensitive habitats.

6. Green Building Policy

In December 2007, the Board of Supervisors adopted an amendment to the Policy Plan that established a green building policy. The policy included broad support for green building practices and established linkages between the incorporation of green building/energy conservation practices and the attainment of planned uses and densities/intensities of development. In growth centers, commitments for green building practices sufficient to attain certification through the LEED® program or equivalent were recommended for certain nonresidential and multi-story multifamily residential proposals. ENERGY STAR® Qualified Homes designations were recommended for any other residential development proposed at the high end of the Plan density range.

On July 1, 2014, the Board of Supervisors adopted a Green Building Policy amendment to the Comprehensive Plan with several changes to the policy, including:

- Clarifying that the emphasis of the policy has always been on individual buildings, not site/neighborhood design.
- Adding support for reuse of and for greening/retrofitting existing buildings.

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17 Provided to EQAC 2014 by Department of Planning and Zoning—Planning Division
- Adding language to encourage energy and water usage collection and performance monitoring, and participation in regional and local evaluations of outcomes.
- Adding language to encourage the use of natural lighting.
- Adding support for solid waste and recycling management practices.
- Defining “equivalent” in reference to green building rating systems.
- Removing a limitation on green building expectation for multifamily residential proposals relating to number of stories, per rating system requirement changes.
- Adding support for higher levels of green building performance when developments have relatively high levels of intensity or density (residential and non-residential).
- Updating the range of residential green building rating systems available for use and revising the related policy to focus more holistically on green building design and not just ENERGY STAR Qualification.
- Adding Industrial Areas for a green building commitment.
- Clarifying expectations for public-private partnerships.
- Adding support for infrastructure for electric vehicle charging.

By establishing these amendments and incentives, green building has become an accepted practice across the county.

The Planning Commission’s Environment Committee is also reviewing a report prepared by the MITRE Corporation, titled “Building Energy Technology Recommendations to Fairfax County.” It was transmitted to the Board of Supervisors in May 2013 and referred to the Planning Commission for its review and recommendation. Presentations have been provided by: The MITRE Corporation; the Fairfax County Department of Cable and Consumer Services (regarding the district energy concept); the Fairfax County Department of Facilities Management (regarding the county’s building energy monitoring efforts) and the U.S. Environmental Protection Agency (regarding EPA’s Portfolio Manager tool). At the committee’s request, staff prepared a document and provided a briefing on its perspectives on the recommendations provided by the MITRE. The MITRE report and staff perspectives document were posted to the committee’s website and a notice was sent seeking comments on these documents. The committee is continuing to review the issues identified in the MITRE report along with the related staff perspectives and stakeholder input.

7. A Fairfax County Example: Merrifield Suburban Center

The Merrifield Suburban Center is a vibrant, exciting, transit-oriented neighborhood. The area boasts a new urban scale Target store (the nation’s first with a fourth floor) that is surrounded by a new arts-focused movie theatre, bubbling fountains and retail shops.
The transition from a sleepy intersection to a transit oriented center was a long journey. After several uncoordinated amendments were passed in the 1990s, a visioning workshop was convened on June 10, 1998, followed by a formal task force that created the Merrifield Concept of Future Development. Over the next 14 years, this vision was doubted and debated, but over time it gained momentum and persevered. Merrifield, like all suburban areas, has unique challenges and, in this case, significant advantages, including:

- A Metrorail station that serves as the infrastructure foundation for the area. The value of a Metro stop cannot be overstated as an anchor for a new suburban area.
- Close proximity to the Beltway and U.S. Route 50 to augment the transit anchor.
- A committed district and supervisor (actually two supervisor champions over the 14 years) with commitments to the long term vision.
- Large property tracts that are the basis for large scale projects. Other areas face fragmented land ownership that requires additional cooperation.
- Development of a street grid. This is essential to build the urban connections and cross connections between parts of the community.
- Inclusion of three stormwater detention vaults with sufficient stormwater capacity such that the peak release rate for 2-year and 10-year storms will be equal to or less than “good forested” condition.

These challenges and advantages have combined to create a transformed place. The success of Merrifield shows the potential of an integrated and strategic long term process. While not all redevelopments will be as spectacular, Merrifield proves that the county has the potential to grow and redevelop while improving the environment.

C. TRANSPORTATION

This section examines transportation, transportation decision making in Fairfax County, and significant transportation trends and projects. Discussions of transportation and the environment typically start with automobiles and the negative environmental impacts of cars. As congestion and density increase, however, single occupancy cars cannot be packed densely enough to move everyone about effectively. In Fairfax County, transportation discussions are increasingly focused on multi-modal and public transit options that provide a better balance of options suited for particular needs.

The transition towards multi-modal and public transit options brings many environmental improvements. They include: reducing air pollution caused by automobiles and traffic congestion; reducing water pollution caused by roadway and parking lot runoff and construction; reducing noise pollution caused by on-road vehicles; reducing energy consumption required to operate motorized vehicles; and the healthy sensation of personal mobility.
Since 1999, there has been a procession of large transportation projects (the “mega projects”) across the county. The Wilson Bridge replacement was the first mega project, followed by the I-95/I-495/I-395 “mixing bowl,” then the combination of the Silver Line Metrorail extension and the I-495 Express Lanes. The mega-transportation projects are expensive, designed for a long time and impact many constituents. The agencies responsible for building the mega projects have delivered them on time and budget with the promised improvements in both capacity and safety.

These mega projects, however, need to be balanced with regular maintenance of the existing infrastructure. An important policy identified by the Coalition for Smarter Growth is “fix-it-first,” to ensure that all state maintenance needs are met and to direct funding to fixing problems on existing roads and transit prior to funding new construction. This policy highlights the competition among transportation funding priorities. Projects that were once new require ongoing maintenance. New projects need to be judged by their ability to enhance the existing network and to maximize their potential to support comprehensive plans for growth into the future. Some of these factors include:

- Does the project address an engineering necessity, such as the Wilson Bridge replacement?
- Does the project fix a design or congestion problem, such as the mixing bowl and changes to the I-66/I-495 interchange?
- Does the project add capacity to the core of the network, such as the Beltway express lanes and the Silver Line?
- Does the project encourage or induce new development, such as the original Beltway, route 66, and Dulles Toll Road that focused new growth further out in the county?

Induced demand is an important concept, especially as the county addresses redevelopment and buildout. Induced development happens when transportation capacity is added to an undeveloped area and consequently encourages growth in that area. In Fairfax County, the objective is to increase density in the mixed use centers, not to add new growth to stable areas outside of the growth centers. This means providing transportation options and dense networks like a street grid that allow better flow within the centers. By aligning transportation and land use, the system becomes more efficient and effective.

Many resources illustrating a move towards multi-modal transportation projects and principles are available:


Tysons Station Access Management Study: www.fairfaxcounty.gov/fcdot/tmsams/

Fairfax Connector ten year Transit Development Plan (the main guide for service expansion and changes in Fairfax County): www.fairfaxcounty.gov/fcdot/tdp.htm.

The Countywide Transit Network Study is looking future transit needs for the entire transit network, connecting present/future destinations and determining what type of transit best serves different areas www.fairfaxcounty.gov/fcdot/2050transitstudy/.

A seven-minute video presentation has been prepared on sustainable transportation in Tysons. www.youtube.com/watch?v=4xAPeDF5veo&feature=youtu.be

Fairfax Advocates for Better Bicycling is focusing on the need for bicycle infrastructure in mixed-use, transit-oriented developments. The county is going through a difficult transition, in that it is promoting this type of development in the context of big suburban roads. www.fabb-bikes.org.

Resources listing important trends and experiences from other jurisdictions are also available:

The Institute of Transportation and Development Policy has created a scoring system to rate Transit Oriented Development: www.itdp.org/tod-standard/.

The National Complete Streets Coalition has provided a wealth of information regarding the complete streets concept. www.smartgrowthamerica.org/complete-streets

1. How do People and Things Move About Fairfax County?

There are numerous options for people and things to move about the county.

**Private, motorized transportation** is the most significant mode of transportation; it directly effects the environment, and is closely related to land use and development. People have become dependent on automobiles for business, pleasure and various daily activities. The urban sprawl that has been experienced in Fairfax County and outer suburbs has caused major congestion on roadways, particularly during rush hour as many individuals are commuting long distances to and from their jobs.

Rail and bus transit via Metro and connector services is looked upon as a means of reducing traffic congestion and thereby creating a positive impact on pollution and air quality. It also has a direct relationship to land use planning and development because rail transport centers are ideal locations for business and housing developments. Bus traffic includes school buses, most of which are transporting students during rush hour periods.
Commercial vehicular transportation, mainly trucks and buses, are another serious factor impacting the environment. Trucks, whether they are local, inter-county or interstate, are serious contributors to the environmental crisis. In addition to many of them using “dirty” diesel fuel, they also have a negative impact on traffic congestion.

Non-motorized transportation such as walking and biking, are gaining popularity in urban areas and being considered as viable alternatives to vehicles. Biking and walking reduce traffic congestion and improve air quality. Not having sufficient infrastructure for walking and biking is a major impediment to expanding non-motorized options. The District of Columbia has been making investments since 2000 with over 69 miles of bike lanes in place and a steadily growing proportion of bicycle commuters (Figure II-4)\(^{19}\).

**Figure II-4.**

DC Travel to Work by Bicycle & Bike Lane Development

<table>
<thead>
<tr>
<th>Year</th>
<th>Miles of Bike Lanes</th>
<th>Bike to Work Modesare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2.7</td>
<td>0.75%</td>
</tr>
<tr>
<td>2000</td>
<td>2.7</td>
<td>1.16%</td>
</tr>
<tr>
<td>2006</td>
<td>24.7</td>
<td>2.00%</td>
</tr>
<tr>
<td>2007</td>
<td>30.1</td>
<td>1.68%</td>
</tr>
<tr>
<td>2008</td>
<td>38.5</td>
<td>2.33%</td>
</tr>
<tr>
<td>2009</td>
<td>44.7</td>
<td>2.17%</td>
</tr>
<tr>
<td>2010</td>
<td>50.3</td>
<td>3.13%</td>
</tr>
<tr>
<td>2011</td>
<td>51.3</td>
<td>3.30%</td>
</tr>
<tr>
<td>2012</td>
<td>55.8</td>
<td>4.10%</td>
</tr>
<tr>
<td>2013</td>
<td>60.0</td>
<td>4.54%</td>
</tr>
<tr>
<td>2014</td>
<td>69.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: District of Columbia Department of Transportation

“Virtual transportation” is another viable alternative to motorized transportation. Modern technology has created opportunities for people to work from home, using computers for telecommuting and e-commerce to perform jobs. Fairfax County is a leader in this field with the Fairfax County Government Telework Program.

\(^{19}\) [http://ddot.dc.gov/publication/2014-bike-program-fact-sheet]
While there are many options, they are not utilized equally. The U.S. Census tracks the modes used by people to get to work each day. The 2013 data shows that of the 605,584 workers, 16 years and over, who live in Fairfax County:

- 72.4 percent drove alone to work in a car, truck or van. (SOV)
- 8.5 percent of those workers commuted via carpool or vanpool. (HOV)
- 9.6 percent used public transportation (excluding taxicabs).
- 1.6 percent walked to work.
- 1.7 percent used other means (including biking).
- 6.1 percent worked at home. (This number may not fully represent the true number of teleworkers in Fairfax County.)

Across all modes, the mean travel time to work is 31.7 minutes. The Metropolitan Washington Council of Governments has noted:

“Nearly three-quarters of Fairfax County resident workers commute to work by driving alone, compared to 68 percent of the Washington region’s workers. Seven percent of Fairfax County’s resident workers use public transportation, compared to 11 percent of the Washington region’s workers. Thirteen percent of resident workers of both Fairfax County and the Washington region use car pooling as a means of transportation to their jobs.

Of the 350,714 owner-occupied housing units in Fairfax County, 4% (14,207 housing units) do not have vehicles. For renter-occupied housing units, approximately 9% do not have vehicles.”

An interesting statistic on commuter patterns is that over 50 percent of the residents in Fairfax County work in the county, with another 16 percent working in the District of Columbia. Similarly, most of the workers in Fairfax County live in the county; however over 110,000 workers commute to jobs in Fairfax County from Prince William and Loudoun counties. Only 12,000 workers commute to the county from the District of Columbia.

As noted in the Air Quality chapter of this report, one of the key issues related to ozone nonattainment and other air quality concerns is the use of motorized vehicles and their emissions. Figure II-5 shows the daily vehicle miles traveled in Fairfax County,

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20 Source: U.S. Census Bureau 2013 American Community Survey 1-year estimate, Commuting Characteristics. Area: Fairfax County.
21 Source: January 2006 publication “Fairfax County and the Washington Region: A Look at Economic and Demographic Characteristics” (p.5):
illustrating that approximately 26.4 million vehicle miles were traveled daily in 2014, a slight decrease from the number for 2013.

Figure II-5. Daily Vehicle Miles Traveled in Fairfax County (Millions)

Source: Virginia Department of Transportation

2. Transportation Decision Making

Fairfax County’s transportation decisions are complicated by the interrelationships of federal, state, regional, sub-regional and local entities involved in transportation planning and funding. The Fairfax County Department of Transportation has the mission to represent local interests in transportation to plan, coordinate and implement a multi-modal transportation system for Fairfax County that moves peoples and goods, consistent with the values of the community. Coordination is essential because transportation programs are quite complicated, with different authorities participating together. For example, the Commonwealth of Virginia owns and maintains every public road in the county, even subdivision cul-de-sacs. These roads are maintained by the Virginia Department of Transportation.
In 2013, a new transportation funding plan was approved in Virginia. This action increased funding for transportation from an additional $392 million in FY 2014 to $817 million in 2018, for a total of almost $3.3 billion. In addition, regional funding has been provided for Northern Virginia ($1.6 billion over five years) and Hampton Roads ($1.1 billion over five years). In Northern Virginia, 30 percent of funds go to localities and 70 percent of funds are for regional projects approved by the Northern Virginia Transportation Authority. Funds can be used for road construction, projects that reduce congestion and public transportation projects that expand capacity.

The Virginia Commonwealth Transportation Board (CTB) has final approval authority over the six-year transportation program for the entire state. Under guidance of the CTB, the Virginia Department of Transportation is responsible for building, maintaining and operating the state’s roads, bridges and tunnels. The long term goals for multimodal transportation across the commonwealth are documented in VTrans2040, adopted by the CTB on Dec 9, 2015.22

On April 6, 2014, Governor Terry McAuliffe signed House Bill 2 (HB2). HB2 became effective as of July 1, 2014 and required the CTB to develop and implement a quantifiable, transparent prioritization and funding process for all modes of transportation by July 2016. See the discussion of “SMART SCALE” below.

The Northern Virginia Transportation Authority is charged by the Virginia General Assembly with preparing a regional transportation plan for Northern Virginia, including transportation improvements of regional significance. NVTA published TransAction 2040—Northern Virginia Transportation Plan, November 201223 with the following goals:

1. Provide an integrated, multimodal transportation system.
2. Provide responsive transportation service to customers.
3. Respect historical and environmental factors.
4. Recognize the linkage between transportation and land use.
5. Incorporate the benefits of technology.
6. Identify funding and legislative initiatives needed to implement the Plan.
7. Enhance Northern Virginia relationships among jurisdictions, agencies, the public, and the business community.

The goals require balancing of various interests, but the priorities of multi-modal systems and respecting environmental factors highlight the importance of integrating transportation with land use and environmental quality.

A further description of the interplay of planning and funding of projects between agencies in the metropolitan Washington area can be found in “A Citizens Guide to

22 [www.vtrans.org/vtrans2040.asp](http://www.vtrans.org/vtrans2040.asp)
Transportation Decision-Making in the Metropolitan Region” (May 30, 2008), which is available from the Transportation Planning Board of the Metropolitan Washington Council of Governments.\(^\text{24}\)

For Fairfax County, the transportation goals are included in, and promulgated through, the Fairfax County Comprehensive Plan. Those projects that are to be funded by county resources are included in the county’s Capital Improvement Program. However, transportation projects that are to be funded through state and federal funding are included in the Virginia Department of Transportation’s six-year transportation program.

a. The County’s Six-Year Plan for Transportation\(^\text{25}\)

On January 28, 2014, the Board of Supervisors approved Transportation Project Priorities (TPP), a six-year plan for transportation with a priority project list for funding for FY 2015 – FY 2020. The TPP represents $1.4 billion dollars in transportation investment from 2015-2020, the majority of funding which come from the state and regional sources for new and existing roads, sidewalks, trails and bike lanes. There are approximately 180 projects funded under the TPP, not including reserve funding for other projects, including $203 million for bicycle and pedestrian improvements and $326 million for transit improvements.

It is envisioned that the TPP will be revised annually, resulting in a rolling funding plan for county transportation projects. It will also be updated to reflect actions of the Commonwealth Transportation Board, the Northern Virginia Transportation Authority and other funding agencies.


b. Countywide Transit Study\(^\text{26}\)

The Countywide Transit Network Study (CTNS) is intended to establish a network of high-quality transit corridors in a cost-effective way in order to accommodate the County’s planned growth over the long term. The study includes recommendations on: where Metrorail should be extended; where light rail, bus rapid transit and/or streetcar systems are appropriate; and, where dedicated lanes for bus transit could be located and associated right-of-way requirements established. The plan was anticipated to have gone to the board for endorsement in fall 2016 with Comprehensive Plan amendments following as appropriate.

A recommendation on the High Quality Transit Network concept was presented in December 2015 to the Board of Supervisors’ Transportation Committee. The CTNS


\(^{25}\) Provided 2015 by Fairfax County Department of Transportation

\(^{26}\) Provided 2016 by Fairfax County Department of Transportation
was to have gone to the board for endorsement in fall 2016. The final report can be found online: www.fairfaxcounty.gov/fcdot/2050transitstudy/

c. SMART SCALE

Governor McAuliffe signed House Bill 2 into law in 2014, which directs the Commonwealth Transportation Board (CTB) to develop and use a prioritization process to select transportation projects to be funded. In 2016, the process was renamed “SMART SCALE, Funding the Right Transportation Projects in Virginia.” SMART stands for System Management and Allocation of Resources for Transportation. The purpose of SMART SCALE is to fund the right transportation projects in VDOT’s Six-Year Improvement Program through a prioritization process that evaluates each project’s merits using key factors, including: improvements to safety; congestion reduction; accessibility; land use; economic development; and environmental quality. Two SMART SCALE environmental quality measures are used to evaluate projects: (1) the reduction of pollutant emissions and energy consumption; and (2) minimizing the impact on natural and cultural resources. The latter measure is unique among all the SMART SCALE evaluation measures because it is adjusted, or scaled, by the benefit scores for all other measures. More information about the prioritization process can be found at project website (www.smartscale.org/).

d. Urban street standards

An example of decision making can be seen in the designation of urban street standards and applying them in county urban centers. Urban standards include narrower lanes, pedestrian/bicycle paths on either side of the road, tree buffers between the street and path, reduced speed limits and safe crossings. These features are safer for pedestrians and multi-modal users and appropriate for use wherever land-use density is significantly increasing.

VDOT is collaborating with Fairfax County on its efforts to develop multimodal system plans for the long term viability of older commercial areas, including the designated revitalization districts/areas of Annandale, Springfield, Merrifield, Bailey’s Crossroads/Seven Corners, Reston, McLean, Tysons Corner and Richmond Highway Corridor. FCDOT has submitted Urban Street Standards for the Reston Transit Station. The submission will take place in two-phases. Once approved, the standards will make it easier to ask developers to meet Virginia Department of Rail and Public Transportation (DRPT) guidelines for multimodal streets in Reston.

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27 Provided 2016 by John Muse, VDOT District Environmental Manager
28 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
29 Provided 2015 by John Muse, VDOT District Environmental Manager
30 Provided 2016 by Fairfax County Department of Transportation
VDOT’s Transportation Efficient Land Use and Design Guide offer planners, architects, builders, local governments, and the public information on best practices and tested, successful strategies that better integrate traditional neighborhood development with transportation efficient development. DRPT developed *Multimodal System Design Guidelines* which provides a roadmap for the incorporation of these same concepts into activity center (higher density mixed-use development) design. VDOT has adopted the DRPT guidelines as alternate street design standards that may be used by localities for the construction of streets within activity centers. Supplemental information for the adoption of DRPT Guidelines as alternate standards by localities is found in Appendix B (2) of VDOT’s *Road Design Manual*. These reference materials may be viewed on the following link: www.vdot.virginia.gov/info/transportation_efficient_land_use_and_design_guide.asp

3. Electric Vehicles

Electric vehicles offer an environmentally friendly alternative to gasoline vehicles. Both the county and COG are working to provide facilities and options for charging electric cars.

In August 2011, the MITRE Corporation, per a proffered commitment to sustainability-related work for the benefit of Fairfax County, completed a report titled “Electric Vehicle Charging Infrastructure Recommendations to Fairfax County.” The report included several recommendations, with a particular focus on electric vehicle charging-related opportunities associated with redevelopment in Tysons Corner. The MITRE report was transmitted to the Board of Supervisors, which, in turn, referred the report to the Planning Commission for its review and recommendation.

In October 2015, the Planning Commission’s Environment Committee completed its review of the MITRE report and its recommendations. The committee’s report was approved by the Planning Commission on November 19, 2015 and transmitted to the Board of Supervisors on January 11, 2016. The Board’s Environmental Committee authorized the Planning Commission and staff to proceed to engage applicants during the zoning process on electric vehicle charging issues consistent with the Planning Commission’s recommendations and the county’s proffer authority. The committee’s report and recommendations are available from links on the committee’s website, at www.fairfaxcounty.gov/planning/committee_environment.htm.

Per that report:

“Plug-in vehicles feature prominently in the vision for a livable, sustainable Tysons Corner. They promise cleaner, quieter transportation that is less dependent on the political stability of other parts of the world, but they come at the price of being a fundamentally different way of powering the automobile fleet. Charging will largely be done over long periods of time at distributed locations, rather than at particular fueling stations. As Tysons
Corner evolves from a suburban office park to an urban center, the evolution to an electric automotive fleet will affect urban layout, building design, and utility services.”

The report recommends that the county encourage developers to build the infrastructure to support electric vehicle charging, then phase in the actual devices and parking reservations as the technology becomes accepted. The author of this chapter owns an electric vehicle and has personally seen the demand for electric charging stations increase. Charging bays at popular spots such as Reston Town Center and Merrifield are almost always occupied. The sweet prime spots are an occasional perk when you get lucky.

COG’s electric vehicle initiatives began in early 2011, leading to the creation of a stakeholder-driven task force whose mission was to develop regional and local program and policy recommendations that would facilitate adoption of electric vehicles. Subgroups addressed comprehensive planning, zoning, building codes and permitting/inspection, infrastructure siting, energy utility policy and outreach and education.


The top five recommendations from the report to encourage greater EV use in the region are:

1. A Washington Regional Electric Vehicle Partnership should be formed to develop a business case for EVs, and to assess the potential for community return on investment.
2. Consider offering incentives such as preferred parking, high occupancy vehicle (HOV) occupancy exceptions and tax credits to promote EV adoption.
3. Electric permitting procedures should identify EV charging station installations and notify electric utilities of their locations.
4. Outreach and education is needed to promote EV adoption and inform the public of its benefits.
5. Local government comprehensive plans and zoning regulations should guide EV infrastructure development and ensure that the built environment can accommodate future EV charging station installations.

The 2014 and 2015 EV work program years focused on three key areas:

2. Developing and conducting the COG-Vision Fleet Pilot Assessment.

3. Promoting work place charging.

The ZEV MOU is an agreement, signed in October 2013 by the governors of eight states, including Maryland, to adopt or consider adopting regulations requiring increasing sales of zero-emission vehicles. To promote regional collaboration, COG partnered with the Maryland Electric Vehicle Infrastructure Council (EVIC) to conduct a Regional EV Readiness Workshop. The purpose of the workshop was to promote shared standards and region-wide EV infrastructure development. Noel Kaplan, Senior Environmental Planner the Department of Planning and Zoning, highlighted Fairfax County’s Planning Commission’s Environmental Committee review process and Electric Vehicle Charging Infrastructure Recommendations prepared by the MITRE Corporation.

4. Non-motorized and Public Transportation

The Board of Supervisors directed FCDOT to lead the effort to improve bicycle and pedestrian safety and mobility, including constructing bicycle and pedestrian improvements in high-priority areas of Fairfax County. Through FY 2020, the board has designated over $313 million in federal, state and county funding to construct high-priority bicycle and pedestrian improvement projects throughout the county. The following sections describe FCDOT programs related to multimodal and public transportation.

a. Walking – the Pedestrian Program

The pedestrian program includes projects on major roadways, in activity centers, providing access to Metro stations and completing neighborhood missing links. From FY2008 through FY2015, the county completed construction on 121 sites/segments, 16 are under construction and another 96 are under design.  

The Pedestrian Program also has a role in pedestrian education and outreach in Fairfax County. Fairfax County is the local government funding leader for regional Street Smart Pedestrian and Bicycle Safety Media campaigns, which have used television, radio, print and bus advertising to promote safety awareness responsibilities of drivers and pedestrians. The Pedestrian Program Manager, Bicycle Program Coordinator, Bus Stop Coordinator, Pedestrian/Bicycle Planner and Pedestrian Outreach Coordinator are all involved in community outreach. FCDOT coordinates with other facility resources and departments as appropriate.

31 Provided 2015 by Fairfax County Department of Transportation
The Fairfax County Police Department conducts pedestrian safety enforcement in high pedestrian crash areas countywide. Fairfax County is one of the few jurisdictions in Virginia permitted to install “Yield to Pedestrians in Crosswalk $100 - $500 Violation Fine” signs. The county has installed and maintains over 1,800 of these signs at 455 intersections.

**FCDOT Project** Update for 2016:

In Reston, a pedestrian bridge on the W&OD Trail over Wiehle Avenue is in preliminary design. Construction completion is expected in 2021. More information and a project schedule are available at [www.fairfaxcounty.gov/fcdot/wod_trail_wiehle.htm](http://www.fairfaxcounty.gov/fcdot/wod_trail_wiehle.htm).

**Transportation Alternatives Program (TAP)**

The Fixing America’s Surface Transportation (FAST) Act was signed into law on December 4, 2015. Within the funding program of the FAST Act is a set-aside amount known as the Transportation Alternatives Set-Aside. The Transportation Alternatives Program (TAP) is a federal grant program administered by VDOT and is intended to assist localities fund community-based projects that expand pedestrian and bicycle facilities and enhance the cultural, historical and environmental aspects of surface transportation.

TAP projects in Fairfax County that received allocations in FY 2016 included the following:

- $258,015 to construct a segment of Cross County Trail that will traverse the Lorton Arts Foundation property and connect Occoquan Regional Park and Laurel Hill.
- $280,000 to construct missing segments of sidewalk along Old Courthouse Road; when completed, a continuous sidewalk connection from Creek Crossing Drive to Westbriar Elementary School will result.
- $400,000 to construct the Cinderbed Road Bikeway to connect Fort Belvoir with the Franconia-Springfield Metrorail Station; the bikeway will also interface with the Fairfax County Parkway trail and several large established neighborhoods and corporate centers.

TAP projects in Fairfax County that received allocations in FY 2017 included:

- $400,000 to construct the Cinderbed Road Bikeway (see details of project in previous paragraph).
- $400,000 to construct a shared-use path from the South Van Dorn Street/Oakwood Road intersection to the Fairfax County line.

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32 Provided 2016 by Fairfax County Department of Transportation
33 Provided 2016 by John Muse, VDOT District Environmental Manager
• $400,000 to purchase bikeshare stations and bicycles to launch a bikeshare system in Reston.

b. Biking --The Fairfax County Comprehensive Bicycle Initiative34

Fairfax County’s bicycle program was established by the Board of Supervisors in 2006 and the responsibilities for program implementation were assigned to the Department of Transportation. The program addresses both capital and non-capital bicycle projects. Through FY 2020, the board has designated over $313 million in federal, state and county funding to construct high-priority bicycle and pedestrian improvement projects throughout the county. These include projects on major roadways, in activity centers, providing access to Metro stations and completing neighborhood missing links. From FY 2008 through FY 2015, the county has completed construction on 121 sites/segments; 16 are under construction and another 96 are under design.

The Bicycle Master Plan (BMP) was adopted by the Board of Supervisors on October 28, 2014. The BMP sets bicycle policies, programs and facilities for the county. The county is working on implementing bicycle facility projects through the six-year Transportation Priorities Program approved by the Board of Supervisors. The Transportation Priorities Program includes $203.93 million for 228 bicycle and pedestrian improvement projects: www.fairfaxcounty.gov/fcdot/cdot/projects/approved.htm35

With the increase in bicycle projects, the county should consider implementation of “Bike Fairfax!”--a program for encouraging/promoting bicycling as a transportation mode with related education and outreach. This could compliment the “Fairfax County Bicycle Route Map,” issued on May 16, 2008. The map defines a network of on-road bike routes that enable bicyclists to traverse the county. The county printed 6,000 copies initially and another 41,000 as a result of demand for the maps. Electronic copies of the “Fairfax County Bicycle Route Map” are available at: www.fairfaxcounty.gov/fcdot/bike/bikemap/.

There has long been interest in launching a bikeshare system in Fairfax County, and in recent years FCDOT has made great strides toward making that vision a reality. In 2014, FCDOT completed the Reston Bikeshare Feasibility Study which determined that a bikeshare system in Reston was feasible and could enhance the mobility needs of residents, workers and visitors in the community. In summer 2015, after several miles of bike lanes were added in Tysons under recommendation in the Tysons Bicycle Master Plan, the Tysons Partnership approached FCDOT with a proposal to bring bikeshare to Tysons. The Tysons Partnership is willing to partner with the county financially to support the cost of launching and running the system.

34 Provided 2015 by FCDOT & 2105 Fairfax County Transportation Status Report
35 Provided 2016 by Fairfax County Department of Transportation
In January 2016, the Board of Supervisors approved a $1.7 million dollar plan to launch the Capital Bikeshare system in Reston and Tysons. The plan will bring 15 Capital Bikeshare stations and 132 bicycles to Reston, and 11 Capital Bikeshare stations and 80 bicycles to Tysons. The county is in the process of finalizing station locations in Reston and is moving ahead with the initial purchase of equipment. The first phase of the system was anticipated to launch in fall 2016. FCDOT will continue to evaluate potential areas to expand the system in the future. More information on Bikeshare can be found at: http://www.fairfaxcounty.gov/fcdot/news/2016/16_001.htm.

Additional Biking program highlights:

- Dulles Corridor Bicycle and Pedestrian Access Study: Design is underway on seven projects. One project is in the land acquisition phase, while three projects were anticipated to begin the land acquisition phase in spring 2016. Three projects are currently under construction. In addition, three projects have been completed (one completed by the Silver Line Metrorail project, one by a developer and one by FCDOT). Ten projects under this program were identified as part of the Tysons Metrorail Station Access Management Study (TMSAMS), and three projects were identified as part of the Reston Metrorail Access Group (RMAG). Of the TMSAMS projects, four are in design, one in land acquisition, two are under construction and three have been completed. Of the RMAG projects, two are in design and one is under construction.

- 2015 Repaving Program: VDOT and FCDOT are working in close coordination to identify locations to improve multimodal safety and access by adding bicycle lanes during the annual summer repaving. Through a variety of methods, VDOT and FCDOT are able to add bicycle lanes to roads with extra width or capacity in their current configuration. The recently adopted bicycle master plan is helping to guide this process by matching roads listed on the repaving schedule to roads that have been identified for bicycle facilities. Successful projects that were completed in this manner include Lawyers Road, Soapstone Drive and Sherwood Hall Lane.

c. VDOT Pedestrian/Bicycling Facilities and Safety

VDOT completed its Northern Virginia Regional Bikeway and Trail Network Study Update in December 2015 to add 148 miles, making a total of 1,029 miles in the network. The update was assisted through the efforts of a task force composed of representatives from Northern Virginia jurisdictions and through an online public survey. To be included in the update, each proposed route had to be from a locality’s plan and rated as “Regionally Significant.” This study also included a “comfort
rating” for each segment and an origin-destination survey. The 2015 study update focused on the progress in implementing the original regional network and is not intended to replace any studies or plans of local jurisdictions.

VDOT collaborates with Fairfax County staff to improve safety for pedestrians and bicyclists. Construction began this summer to upgrade and install sidewalk ramps at intersections that do not meet current Americans with Disability Act standards. Fairfax County’s first High Intensity Activated Crosswalk (HAWK) signal was installed earlier this year on Backlick Road in Springfield between Highland Street and the Beltway overpass. The HAWK signal provides for a safer pedestrian crossing of Backlick Road, particularly for students attending Lynbrook Elementary School. The project was accomplished with cooperation among: VDOT; the Fairfax County Department of Transportation; the Fairfax County Department of Public Works and Environmental Services; elected officials; Lynbrook Elementary School staff, students and PTA representatives; and community advocates.

VDOT’s Safe Routes to School (SRTS) program has been active in Virginia since 2007. This federal grant program provides assistance to interested localities and schools across the state to make walking and biking to school a safe, convenient, natural activity for all students (including those with disabilities). The SRTS program offers funding grants for the following project types: (1) Quick Start Non-infrastructure Activities; (2) Walkabout Mini-Grants; (3) Infrastructure Grants; and (4) Non-Infrastructure Grants. The following Fairfax County Public Schools have received SRTS grants:

• Terra Centre Elementary School: $152,000 for bike/pedestrian improvements on Burke Centre Parkway at Marshall Pond Road (advertised for construction April 2016).

• Vienna Elementary School: $241,500 for new sidewalk along Cottage Street (construction advertisement anticipated October 2016).

• Herndon Elementary School: $487,656 for new sidewalks along Park Avenue (construction advertisement anticipated December 2016).

• Graham Road Elementary School: $165,000 for high visibility crossing improvements at Oakland Avenue and Graham Road (construction advertisement anticipated January 2017).

• Flint Hill Elementary School: $235,000 for high visibility crossing improvements at Flint Hill Road and Vale Road (construction advertisement anticipated January 2017).

VDOT continues to ensure that biking remains an integral component of Virginia’s multimodal transportation system and is a local sponsor of Bike to Work Day events promoted by the Washington Area Bicyclist Association and Commuter Connections.
Pedestrian and bicycle facilities identified in Fairfax County’s Comprehensive Plan are included in the scope of other major VDOT roadway improvement projects including but not limited to:

- Route 7 widening from four to six lanes between Reston Avenue and Jarrett Valley Drive will include a 10-foot shared-use path on both sides of the road.
- Rolling Road widening from two to four lanes will provide accommodations for pedestrians and bicyclists.
- Recently completed Telegraph Road improvements between South Van Dorn Street and South Kings Highway include a striped four foot-wide on-road bike lane in each direction, a five-foot-wide sidewalk on the east side and a ten-foot-wide shared-use path on the west side.

Additional resources about bicycling and walking are available at: www.virginiadot.org/travel/nova-mainBicycle.asp.

d. **Bus Rapid Transit**

Bus Rapid Transit is being considered as an additional form of public transportation. BRT uses buses with specialized design, services and infrastructure to improve system quality and remove the typical causes of delay. Sometimes described as a "surface subway," BRT aims to combine the capacity and speed of a Metro train with the flexibility, lower cost and simplicity of a bus system. There are two new projects considering BRT:

**Route 1 Bus Rapid Transit Project (Embark Richmond Highway)**

VDOT is cooperating with Fairfax County on the *Embark Richmond Highway* initiative for a phased implementation of multimodal transportation improvements (roadway, bicycle/pedestrian and transit) and planned land use and mix over the next 10 to 25 years for the US Route 1 (Richmond Highway) corridor. Major transportation improvements along the corridor include a median-running Bus Rapid Transit (BRT) system, a consistent six-lane cross section for Richmond Highway, pedestrian/bicycle improvements, additional local street connections and a three-mile extension of the Metrorail Yellow Line.40

The Virginia Department of Rail and Public Transportation study recommended long-term extension of the Metrorail Yellow Line from Huntington to Hybla Valley, with Bus Rapid Transit (BRT) in the median to be phased for the entire corridor to Woodbridge. The study was completed in January 2015 and was endorsed by the board in May 2015.

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39 Fairfax County DOT, Information provided for 2016 EQAC Annual Report
40 Provided 2016 by John Muse, VDOT District Environmental Manager
The Embark Richmond Highway Advisory Group was formed and convened several times in second half of 2015. An Environmental Assessment of Route 1 widening from Route 235 to Napper Road (to include BRT) will be conducted by VDOT.

Envision Route 7 (Transit Alternative Analysis Study)

The Route 7 Corridor Transit Study is an in-depth assessment of the travel needs in the corridor, including potential recommendations to improve mobility and accessibility to and within the Route 7 corridor between Tysons and the City of Alexandria. This study is being conducted by the Northern Virginia Transportation Commission. (NVTC). Phase I identified a range of transit options that could improve mobility and accessibility in the corridor and narrowed the transit options to be evaluated further in Phase II. Phase II was to have been completed in summer 2016. The study is recommending Bus Rapid Transit (BRT) for the corridor and the NVTC Board was expected to consider this recommendation in summer 2016.

e. Bus transit--Fairfax Connector and Metro Bus

The county initiated the Fairfax Connector in September 1985 as a county-sponsored, cost-effective alternative to the bus service by WMATA. The Fairfax Connector system now consists of 84 routes that provide over 650,000 revenue hours annually, representing 55 percent of the total bus service in the county. Fairfax Connector’s available revenue vehicle fleet consists of 30-, 35- and 40-foot heavy-duty transit buses, all of which are owned by the county. The service, including the hiring and training of drivers and the maintenance of vehicles, is operated under contract with a private firm. Fairfax Connector buses operate within Fairfax County (including the Towns of Vienna and Herndon), and also provide commuter service to and from Arlington County (Crystal City and Pentagon).

Fairfax Connector has made several improvements to reduce emissions: reducing auto shutdown from 10 minutes to five minutes; switching from tires filled with air to nitrogen; and reducing the average age of the fleet to 2.8 years. FCDOT replaced 17 buses in FY2015. All newer buses are equipped with Mini-Hybrid technology and meet strict EPA standards by using the newest emissions reduction technology. The maintenance and service buildings at West Ox have been converted to landfill gas for heat, which turns wasted energy into a useful product.

Connector is a compliment to Metro and as Metro expands, Connector routes adapt to maximize the use of the new stations. With the Silver Line opening, coverage had to be modified to complement the faster Metro service in the northwest corner of the county.

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41 Fairfax County DOT, Suggested Information for 2015 EQAC Annual Report
The first phase of the Tysons Circulator System, serving the Metrorail stations in Tysons, was implemented with the opening of the Silver Line Phase 1 and consists of bus service operating in mixed-traffic on existing rights-of-way. The three routes operate within the area defined by Route 7, the Capital Beltway (I-495) and the Dulles Toll Road (Rt. 267). These routes were modified during their first year of operation to improve performance, reliability and attractiveness; they will continue to be adjusted as new roadway and grid connections are built. Fairfax Connector continues to operate two routes to and from Tysons via the 495 Express Lanes. Route 494 connects Lorton, Springfield and Tysons, and Route 495 connects Burke Centre, Kings Park and Tysons.

f. Bus Stop and Shelter Improvement Programs

In compliance with the agreement between the Department of Justice and Fairfax County, FCDOT has completed self-assessments of major park-and-rides and bus stops improved by the county since 2007. FCDOT has submitted a remediation plan and anticipates completing remediation work over the next several years. Stop improvements are ongoing, and include improvements such as the construction of concrete or asphalt pads, and accessible paths to and from bus stops. In 2016, 10 bus stop improvement projects have been under construction.

FCDOT is engaged in a public/private partnership to improve bus stops and increase the number of bus shelters in the county. This program was expected to have raised $50,000 (less shared construction cost) in FY 2014 through the sale of advertising space on bus shelters. The contractor sells advertising space to subsidize construction, maintenance and operation of bus shelters and will share a percentage of the surplus revenues with the county. The current agreement permits several different advertising options and styles. The county’s revenue share has been below initial estimates, but recent increases in advertising sales are anticipated to be sustained for the next two years.

g. Metro Access Improvements

The board has chartered three Metro station access management studies: the Tysons Station (TSMAMS), the Herndon (HMSAMS) and Reston (RMAG). The purpose of each was to engage the public to identify and prioritize necessary bicycle and pedestrian facility projects to improve access to the future Metro stations. The effort was led by the Fairfax County Department of Transportation (FCDOT), was guided by a diverse advisory group, was supported by a consultant team and included public outreach.

As noted in the final report: “Providing opportunities to walk and bicycle to Metrorail will be critical to the success of the transportation network in the station areas overall and to building ridership for Metrorail. Driving is a dominant mode of
travel in the study area today (2014) and will continue to be important in the future. Bicycling and walking need to become more prevalent to help fully realize the benefit of the County’s Metrorail investment.”

Recent Metro access updates

Tysons Metrorail Station Access Management Study (TMSAMS): Project implementation efforts are underway for 34 projects. Ten projects were completed under an expedited process utilizing Commercial and Industrial (C & I) funds, and ten projects were included in the Dulles Corridor Bicycle and Pedestrian Access program (see above). FCDOT is coordinating three projects with the Fairfax County Park Authority (FCPA) that FCPA may manage through construction. Two projects will be completed by developers. Nine projects are in the design phase, with six of these projects in the land acquisition phase, and one additional project was anticipated to have begun land acquisition in spring 2016. Four projects are under construction. A map of projects and status is available online: www.fairfaxcounty.gov/fcdot/silverline/tysonsimp.htm

Reston Metrorail Station Access Group (RMAG):

Design efforts are underway on four projects. Two projects completed the land acquisition phase and were scheduled for construction in summer 2016. One project was scheduled to have begun the land acquisition phase in spring 2016, and one project was authorized for construction. In addition, two projects are located on private property, which requires further coordination with landowners prior to commencing design activities. Two projects are awaiting completion of further feasibility and location studies.

Herndon Metrorail Stations Access Management Study (HMSAMS)

- Overview and findings were presented in January 2015 to the Board of Supervisors’ Transportation Committee.
- $11.2 million in funding for HMSAMS projects was approved by the board on December 8, 2015.

Projects are currently being implemented by the county’s Capital Projects and Traffic Engineering Division.

5. Transportation Demand Management Alternatives, and Outreach

Transportation Demand Management is an important approach to maximize the effectiveness of the overall transportation network. The Mobility Lab describes TDM as “a program of information, encouragement and incentives provided by local or regional organizations to help people know about and use all their transportation options

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42 Fairfax County DOT, Information provided for 2016 EQAC Annual Report
43 http://mobilitylab.org/about-us/what-is-tdm/
to optimize all modes in the system – and to counterbalance the incentives to drive that are so prevalent in subsidies of parking and roads.” The Mobility Lab goes further to explain that “TDM should guide everything we do in designing our transportation and physical infrastructure so that alternatives to driving are naturally encouraged and our systems are better balanced. TDM thus underlies most of the important new initiatives of today: transit-oriented development, complete streets, walkable activity centers, livability and sustainability initiatives, and integrated corridor management, to name a few examples.”

Fairfax County has been practicing TDM for many years, starting with early work encouraging telework and workforce flexibility, to new programs that tie TDM to development and county employees, residents and businesses to make better transportation choices. In 2015, Fairfax County surpassed its goal of designating employers in Fairfax County as “Best Workplaces for Commuters.” This designation acknowledges employers who have excelled in implementing green commuter programs such as ride-sharing, transit benefits, biking and walking, teleworking, alternate work schedules and other strategies. These types of commuter programs improve mobility by reducing the number of single-occupant vehicles on the roads.

www.fairfaxcounty.gov/fcdot/bestworkplaces.htm

a. TDM tied to new development in Fairfax County

The county has integrated Transportation Demand Management (TDM) strategies into the land development process and has standardized this program. TDM proffers promote alternatives to single occupant vehicle trips. These proffers contain commitments to provide TDM services, goals for percentage trip reduction, and remedies or penalties for non-attainment of proffered goals. The TDM proffer coordinator negotiates proffers and monitors implementation and performance of existing proffers. A comprehensive and standardized program for TDM was endorsed by the Board of Supervisors in 2012. In FY 2016, TDM proffers were committed for new developments in Reston, Fairfax, Tysons-Dulles Corridor and Merrifield. The implementation of TDM has been going smoothly, and proffer monitoring continues for properties throughout the county. Overall, the standardized TDM proffers are still seen as a well-functioning system.

b. TDM for Employers—Results of the Transportation Services Group

The combined transportation demand management programs and outreach efforts of the FCDOT Transportation Services Group (TSG), along with programs sponsored by the Metropolitan Washington Council of Governments Commuter Connections program, have allowed the county in fiscal year 2015 to continue to reach tens of

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44 Transportation Information for EQAC 2013, Kris Morley-Nikfar, FCDOT & Updated June 8, 2011, Dan Southworth, FCDOT
45 Provided 2015 by Fairfax County Department of Transportation
thousands of people who live or work in Fairfax County with messages about environmentally friendly transportation options.

Five hundred forty-one Fairfax County employers have implemented TDM programs. Two hundred sixty-three of those are at level three or four, which means they have implemented benefits or programs that significantly help to reduce single-occupant vehicles. Outreach to businesses to encourage employee transportation benefits reached 670 new employers, impacting thousands of employees and commuters.

The RideSources Department received 691 on-line applications from commuters looking for car or vanpool matches last year; over 255 participants were re-registered. RideSources staff assisted the regional Guaranteed Ride Home program by adding 168 commuters.

Information about transportation options such as the HOV and Express Toll lanes, Ridesharing, Guaranteed Ride Home, SmartBenefits Plus50, car sharing, using bus and rail and teleworking is disseminated at outreach events throughout Fairfax County. In total, FCDOT-TSG participated in over 59 events within the community such as town fairs, employer fairs, and public meetings.

The TSG, in partnership with the Center for Urban Transportation Research, has designated nine additional Fairfax County employers as “Best Workplaces for Commuters” in FY 2015. This raises the total number of recognized sites in Fairfax County to 47 since the program started in 2010. The employers were recognized by the Board of Supervisors in December for the broad range of transportation options offered to their employees. The “Best Workplaces for Commuters” program, managed by the National Center for Transit Research (NCTR) at the University of South Florida, provides employers who meet the National Standard of Excellence in commuter benefits with national recognition and an elite designation for offering outstanding transportation options to employees. Fairfax County staff also assisted NCTR in the conception and development of the national “BEST SITES” category, which recognizes developers, malls and office parks that have implemented planet-friendly trip reduction programs.

The TSG continues outreach efforts including congestion mitigation and support for Base Realignment and Closure (BRAC) construction and relocation efforts. Fairfax County is working with the VDOT and DRPT to provide transportation alternatives to employers impacted by I-66 and, I-95 Express Toll and Rail to Dulles construction. These ongoing activities have given the Employer Services and RideSources Team additional exposure to decision makers with many of the top corporations and organizations in Fairfax County.
c. **TDM for Residents—Commuter Friendly Communities Program**\(^{46}\)

The FCDOT Commuter Friendly Communities Program partnered with over 247 multi-family complexes, area developers and civic organizations to promote telecommuting, mass transit, carpools, vanpools, biking and walking instead of drive-alone commuting.

The Transportation Services Group also supports transportation management associations that assist commuters and the community. Some of these include the Dulles Area Transportation Association, LINK of Reston Town Center, TyTran in Tysons Corner and the Transportation Association of Greater Springfield.

d. **Fairfax County Telework Initiative**\(^{47}\) and Options for County Employees

Fairfax County encourages employees to take public transportation to work through the Commuter Benefits Program. In 2014, there were 232 employees participating in the program. The county also provides reserved parking spaces for carpools and vanpools at some facilities.

The county has a long history with telework. Starting with 138 participants in 2001, the program increased to over 1,000 by 2005 (thereby meeting a goal that was set based on the Metropolitan Washington Council of Governments’ goal of having 20 percent of the regions’ eligible workforce teleworking by 2005). In 2015-2016, there were 1,652 eligible county employees who teleworked at least one day a week.\(^{48}\) The county’s active partnership in regional efforts to expand telework keeps it current on best practices and identifies the county as a resource for businesses on teleworking.

Based on information provided to EQAC previously regarding the 2005 telework goal, it is estimated that county teleworkers potentially saved roughly 80,000 commuting hours and 2.5 million commuting miles in a year. The county will continue to emphasize telework as an important component of its Continuity of Operations Planning, in order to ensure that county workers have the tools to work from remote sites.

6. **Highway Projects**\(^{49}\)

In 2016, several new highway projects in and around the county are being planned. These are in the category of mega-projects that will affect many motorists in the area. Of

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\(^{46}\) Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation  
\(^{47}\) Ibid + E-mail from Catherine Chianese, Assistant Fairfax County Executive, Sept 7, 2011  
\(^{48}\) Provided July 2016 by Robert Milligan, Fairfax County Department of Human Resources  
\(^{49}\) Fairfax County DOT, Information provided for 2016 EQAC Annual Report
note is that these projects are specifically including more multi-modal options as part of the design process.

a. **Transform I-66 (Outside the Beltway)**

VDOT and the Virginia Department of Rail and Public Transportation (DRPT) are working on a project to transform 25 miles of I-66 from U.S. Route 15 in Haymarket to I-495/Capital Beltway into a multimodal corridor that moves traffic and people more efficiently. Under the proposed plan, I-66 would be improved to provide:

- Three regular lanes in each direction.
- Two express lanes in each direction.
- High-frequency bus service with predictable travel times.
- Enhanced commuter park and ride lots.
- Direct access between the express lanes and new or expanded commuter lots.
- Bicycle and pedestrian facilities and other improvements.

Integrating bicycle and pedestrian amenities in key areas along the I-66 corridor is essential to developing a multimodal network. In coordination with Fairfax County, a combination of parallel bicycle/pedestrian facilities along I-66 will be constructed by VDOT and other improvements to adjacent roads to be built by others will provide connectivity to existing facilities, park and ride lots and convenient access to transit options. Additional information is online at: [http://outside.transform66.org/](http://outside.transform66.org/)

b. **Transform I-66 (Inside the Beltway)**

Providing a new travel choice and ensuring a reliable trip are the central purposes of the I-66 Inside the Beltway program. During morning and evening commutes, I-66 Inside the Beltway is currently restricted to carpools (with two or more people), vehicles with authorized clean special fuel license plates, Dulles Airport travelers and law enforcement.

With the I-66 Inside the Beltway program, in exchange for paying a toll, solo drivers will be able to use the interstate during peak hours. Carpools and vanpools (with two or more people, until a regional change to HOV-3+ goes into effect in 2020), transit, on-duty law enforcement and first responders will not pay a toll. Commuters who choose not to drive will enjoy better and more frequent transit services, as well as other improvements that will be funded by toll revenues. Making travel better and easier for everyone who uses the I-66 corridor is the goal of the program ([http://inside.transform66.org/](http://inside.transform66.org/)).

Revenue collected from the tolling will be used to support multimodal components along the I-66 corridor and complementary corridors adjacent to I-66 including improvements along local roads, enhanced bus service and improved Metro access as

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50 Provided 2016 by John Muse, VDOT District Environmental Manager
well as new pedestrian and bicycle access. Under an agreement with the Commonwealth of Virginia, the Northern Virginia Transportation Authority will be responsible for planning/selecting, issuing grants and monitoring the effectiveness these multimodal improvements.

**c. Express Lanes I-95/I-395**

This project will extend the northern section of I-395 Express Lanes from north of Edsall Road to Eads Street. The extension will convert two high occupancy vehicle (HOV) lanes to three express lanes and will help ease bottlenecks that occur where the existing 395 Express Lanes end. Improvements to the commuter-heavy Eads Street interchange and transit improvements on the entire I-395/I-95 corridor are other key benefits of the project. This eight-mile extension is the latest addition to a growing network of express lanes aimed at unlocking gridlock in Northern Virginia (www.virginiadot.org/projects/northernvirginia/395_express.asp).

In November 2015, VDOT and 95 Express signed a developer framework agreement to develop the project. The project will provide a long term transit investment through annual transit payment amount. Virginia's Department of Rail and Public Transportation (DRPT) is engaging in a transit and transportation demand management (TDM) study to identify priority transit projects that should be supported by these funds.

**7. Highway Impact to Wetlands, Streams and Water Quality**

Due to the linear nature of highway construction projects, the presence of environmental resources varies from project to project. Environmental impacts must be minimized or mitigated during highway construction and water quality maintained after construction.

Impacts to stream and wetland resources from VDOT projects and activities are avoided and minimized to the extent feasible. Avoidance of such impacts involves a balance with avoiding and minimizing technical, logistical, socio-economic as well as other environmental resource factors to find the most practical and least environmentally-damaging solution. For unavoidable impacts to aquatic resources Federal/State water quality laws and regulations may require compensatory mitigation in order to obtain water quality permit authorizations from the permit regulators.

Beginning in 2008, the Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (USACE) and the Virginia Department of Environmental Quality (DEQ) jointly supported an order of preference for compensatory mitigation: first through purchase of stream and wetland credits from approved commercial mitigation banks,

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51 Provided 2016 by John Muse, VDOT District Environmental Manager
52 Provided 2015 and 2016 by John Muse, VDOT District Environmental Manager
second by payment of in-lieu funds, and third by permittee responsible mitigation (i.e., preservation, enhancement, and creation) for compensation of unavoidable impacts to aquatic resources. As a result, VDOT now purchases wetland and stream credits from approved mitigation banks to fulfill compensatory requirements.

While compensatory mitigation is ultimately subject to approval of the regulatory permitting agencies, VDOT is open suggestions for exploring mitigation opportunities within the Fairfax County geographical area. For example, the Prince William Environmental Bank, a cooperative project between the Prince William County Park Authority and an environmental consulting firm, was established to restore stream and riparian buffers entirely on county park lands. At least four other local park agencies in Northern Virginia have begun work on proposals to develop stream mitigation banks.

Prior to the 2008 ruling, VDOT was required to design and construct on-site mitigation areas during project construction. Within Fairfax County, VDOT created several mitigation sites on state right-of-way totaling approximately eight acres of wetlands (seven acres non-tidal and one acre tidal) and approximately 2,635 linear feet of restored streams associated with unavoidable impacts from VDOT highway improvement projects (e.g., Fairfax County Parkway, Route 28 widening, Roberts Parkway bridge overpass, Springfield Interchange improvements, Route 29 bridge replacement over Big Rocky Run, Route 1 widening and Woodrow Wilson Bridge replacement).

These compensatory mitigation sites have satisfied the success establishment criteria set by the regulatory permitting agencies and now exist in perpetuity as protected conservation easements. One of that last remaining on-site mitigation sites under active post-construction permit monitoring is associated with the I-95/Telegraph Road interchange improvement project (opened to traffic in 2014). The compensatory mitigation requirements for the unavoidable impacts included wetland enhancement/creation of 1.71 acres of tidal wetlands and 0.63 acre of non-tidal wetlands near the confluence of Taylor Run and Cameron Run plus 0.36 acre of stream restoration to relocated tributary to Cameron Run; these areas are in the fourth year of a five year monitoring period.

a. MS4/Stormwater Management

Over 860 acres of impervious road surface area run-off is treated through a system of more than 200 stormwater basins throughout the county. VDOT is authorized to discharge stormwater from its municipal separate storm sewer system (MS4) by coverage under the Virginia Pollutant Discharge Elimination System (VPDES) General Permit for Discharge of Stormwater from small MS4s within the urbanized areas of Virginia. Under the new regulations, runoff from all existing and proposed impervious pavement on VDOT highway improvement projects will need to be treated before it is discharged to adequate outfalls. These new requirements will

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53 Provided 2016 by John Muse, VDOT District Environmental Manager
increase the acreage of impervious road surface as well as expand the number of best management practice (BMP) measures for treatment of stormwater runoff from highways. VDOT has created MS4 District Coordinators within each of VDOT’s District Offices; each coordinator has the primary responsibility to assist and coordinate the implementation of MS4 program activities, perform facilities and VPDES Construction Permit inspections, develop correction actions recommendations and train district staff on the MS4 program requirements.

8. Highway Environmental Programs

VDOT contributes information to EQAC for this report and several additional programs that are visible in Fairfax County should be highlighted. The Virginia Department of Transportation (VDOT) recognizes that solving transportation problems, no matter how simple or complex, also requires consideration of quality of life and the protection of the Commonwealth’s natural resources. EQAC appreciates and concurs with that new spirit.

a. Noise Barriers

Highway traffic noise is an important environmental issue and noise abatement measures help to improve quality of life for residents. Consistent with FHA regulation 23 CFR 772 and the State Noise Abatement Policy, construction of noise barrier systems have been completed on the following federal-aid projects in Fairfax County during FY2015-16:

- One new noise barrier on the Route 7 Bridge Replacement and Widening project over the Dulles Toll Road.
- An in-kind replacement noise barrier and one new ground-/structure-mounted noise barrier system on the Jones Branch Connector project over I-495.

Construction of noise barriers has been completed for the following federal-aid project during FY2015/16:

- An in-kind replacement barrier, an in-kind replacement barrier with extensions and a new barrier system is comprised of two noise barriers on the I-66 Westbound Spot Improvements - Spot 2 project between Washington Boulevard and the Dulles Access Road.

b. Environmental Commitment and Compliance Assistance Program

VDOT’s Environmental Commitments and Compliance Assistance Program was developed pursuant to VDOT’s FY15 Business Plan, which consists of eight Action Items/Goals. Action Item/Goal 4 is dedicated to Environmental Stewardship and requires VDOT “to protect the environment and improve the quality of life for Virginians” in its mission to build, operate and maintains highways. The primary

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54 Provided 2016 by John Muse, VDOT District Environmental Manager
objectives of this program are to establish a consistent process to communicate the environmental commitments (regulations, legislation, and other legal requirements) at the beginning of project construction with active monitoring throughout the life of a project to ensure both compliance and proper implementation. The formal rollout of this program was implemented July 1, 2015.

c. **Highway Lighting and Signals**

VDOT maintains and operates over 225 Dynamic Message Signs, which have been retrofitted with the latest light emitting diodes (LED) technology. The recently completed Active Traffic Management system installed on I-66 from the Washington, D.C. line to Route 29 in Gainesville also utilizes LED technology. VDOT has replaced nearly 1,400 traffic signals in the Northern Virginia region with LEDs; non-LED traffic signals will be upgraded to LEDs as they are replaced.

d. **Landscaping and Aesthetics**

VDOT has included landscaping on several road construction projects to enhance context sensitive road design. Completed construction projects with landscaping and/or architectural treatments include:

- Stringfellow Road widening project between Fair Lakes Boulevard and Route 50.
- Roundabout at Braddock Road and Pleasant Valley Road project.
- Route 7 widening project between Rolling Holly Drive and Reston Avenue.

Planned reforestation and landscaping for the I-66 Westbound Spot Improvement #2 project is scheduled for spring 2017.

Approximately 3.5 acres of rights-of-way at four locations in Fairfax County are managed as wildflower meadows. In 2014, VDOT initiated a Pollinator Habitat Program to create naturalized areas planted with native nectar and pollinator species along state maintained roadways, within rest areas and park and ride lots. Six sites have been planted in the Northern Virginia, including a plot at the Stringfellow Road Park and Ride in Fairfax County. During 2016, six additional sites have been planted or seeded and four more are currently being planned at Virginia rest areas. Revenue to support this program comes from purchase of “Wildflowers” or “Protect Pollinator” license plates from the Virginia Department of Motor Vehicles.

e. **Research**

VDOT’s research division, the Virginia Center for Transportation Innovation and Research (VCTIR), conducts research on current and future environmental topics.

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55 Provided 2016 by John Muse, VDOT District Environmental Manager
56 Provided 2016 by John Muse, VDOT District Environmental Manager
57 Provided 2016 by John Muse, VDOT District Environmental Manager
related to maintenance, construction and operations of transportation systems. Current research projects include:

- **Management Guidelines for Historic Roads in Virginia**: This project will identify various issues, including planning and maintenance activities that can affect historic roads and will develop guidelines for appropriate management practices for these historic resources.

- **Evaluation of the Effectiveness of Wildlife Fencing Along Existing Isolated Underpasses**: This project will evaluate the effectiveness of erecting wildlife fencing along Interstate 64 in Albemarle County to increase motorist safety and reduce societal costs of deer-vehicle collisions.

- **Reuse Options for VDOT's Street Sweeping Residuals**: As landfill space becomes limited and the volume of residuals increases, disposal costs will increase as well. VDOT is investigating the possibility of gaining a beneficial use determination from the Virginia Department of Environmental Quality for road waste residuals from street sweeping that would allow reuse of some portion of this material for applications that do not contribute to the deterioration of the environment.

Ongoing VCTIR research projects are at: [http://vtrc.virginiadot.org/PUBS.aspx](http://vtrc.virginiadot.org/PUBS.aspx).

9. **Major Transportation Projects**

The following section provides updates on the major transportation programs across the county in 2015.

a. **Status of Dulles Rail Project**

The Dulles Corridor Metrorail Project has completed the extension between I-66 at the Dulles Connector Road and Wiehle Avenue in Reston. Substantial completion for the Silver Line, Phase 1 was declared in April 2014 and passenger service began in July 2014.

b. **Status of Dulles Rail Project Phase 2**

The Metropolitan Washington Airports Authority is building the Dulles Corridor Metrorail Extension from Wiehle-Reston East Station west to Dulles International Airport and Loudoun County. Fairfax County, Loudoun County and MWAA have committed to participate in Phase 2. Phase 2 is being constructed by Capital Rail Constructors, a joint venture between Clark Construction and Kiewit International. Design efforts are currently being completed for the three new stations in the county. Enabling construction work was initiated spring 2015 at Innovation Center Station.

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58 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
Silver Line, Phase 2 substantial completion is expected in summer 2019 with passenger service to follow.

Design is also underway for the future park-and-ride garages at Innovation Center Station and Herndon Station that are to be constructed by the county. The park-and-ride garage at Innovation Center Station is part of a joint development project and was approved July 2014 as part of rezoning application. The Herndon Station garage was the subject of a 2232 application that was approved June 2014. FCDOT staff continues to coordinate with MWAA and other county agencies on the planning and construction of these garages. The garage completions are expected in spring 2019.

c.  Columbia Pike Streetcar Project

One of the biggest transportation disappointments in the county was a decision by Arlington County in November 2014 to cancel the Columbia Pike Streetcar Project. Fairfax and Arlington counties had been working on this project since 2012 to provide high quality transit options to this 7.4-mile corridor.

Fairfax County remains committed to providing high quality transit for the residents, workers and businesses in the Bailey’s Crossroads area. It is EQAC’s view that this part of the county should have better transit options to align with the revitalization efforts in Seven Corners, Bailey’s Crossroads, and Annandale.

The Coalition for Smarter Growth published an important collection of facts about the project:

- With approximately 17,000 riders a day, right now, the Columbia Pike corridor is the busiest bus corridor in Virginia.
- The streetcar was projected to bring between $3.2 and $4.4 billion in real estate investment to the Columbia Pike corridor. Studies show that bus ridership in the Columbia Pike corridor is maxed out. Ridership on the Metrobus and Arlington Transit (ART) routes that serve Columbia Pike climbed rapidly for five years after 2003, when Arlington introduced a set of service enhancements, dubbed "PikeRide." However, since then ridership has stayed flat.
- Streetcars hold more people with fewer vehicles, which means moving more people through the corridor per hour. A standard Metrobus can carry 76 riders. An extra-long "articulated" Metrobus can carry 115 riders. A single streetcar can, however, carry 158 riders.
- On a per-mile or per-user basis, the streetcar costs less than other projects. The Beltway HOT lanes, for example, cost $1.4 billion for 14 miles and an estimated

59 Provided 2015 by Fairfax County Department of Transportation
60 http://salsa3.salsalabs.com/o/2041/t/0/blastContent.jsp?email_blast_KEY=1295383
66,000 users per day. Maryland's Intercounty Connector cost $2.6 billion for 18 miles and an estimated 30,000 users per day. The streetcar's upper estimated cost is $261 million -- for Arlington's five mile segment with an estimated 26,000 users per day.

D. THE INTERRELATIONSHIP BETWEEN LAND USE AND TRANSPORTATION

The above sections presented “Land Use” and “Transportation” as separate environmental issues. The focus of this section is on the interrelationship between land use and transportation. Throughout this chapter, three fundamental challenges are addressed:

- The county is rapidly approaching build-out and is transitioning from a growth focus to redevelopment.
- The county transportation systems are strained by congestion and getting further constrained by sprawl beyond the county.
- The county will continue to grow in population and prosperity, putting more pressures on the environmental quality and quality of life, which are underpinnings of that growth and prosperity.

The concentration of development according to the Concept Map for Future Development necessitates that land use and transportation planning and policies evolve and interrelate together. New places will need to provide residential, commercial and transportation options for more people, under challenging constraints, while increasing environmental stewardship. These places will enable future growth through denser and mixed use development, efficient transportation options, such as Metrorail and HOV and lifestyle options such as telecommuting and flex-work.

Throughout the world there are examples of large cities that have managed to continue growing without sacrificing environmental quality. But to do so requires sophisticated planning across many facets of the community. Conversely, when land use and transportation decisions are made in isolation, they will exacerbate the problems of build-out and congestion and negatively impact quality of life.

Growth/redevelopment is a long term process. Planning is the first step, and the county has made great progress improving the tools and processes for decision making and bringing systems into near-real time thought the GIS. The next step is the laws governing development through the zoning ordinance. The ordinance needs to be continually updated to incorporate new technologies and better practices for building high quality and efficient structures. This includes standardizing practices, such as Transportation Demand Management proffers, and incorporating urban focused zoning regulations, such as maximal
parking restrictions in transit station areas. The final step is active encouragement of development where it is most appropriate.

Fairfax County’s role in the redevelopment and reinvestment of the older commercial areas specifically supports environmental goals by reusing previously developed land, utilizing and enhancing existing services and utilities, and reducing development pressure on the county’s remaining greenfields. Redevelopment provides an opportunity to replace or upgrade existing land uses and transportation networks with modern efficient systems that often have less environmental impact. The Comprehensive Plan and the Sustainable Development Policy for Capital Facilities provide guidance for incorporating the U.S. Green Building Council’s LEED® rating systems in the design and construction of buildings and landscapes. These encourage efficient use of energy and water resources to minimize short and long term impacts on the environment and building occupants.

1. Encouraging Redevelopment and Revitalization

The Comprehensive Plan recognizes that reinvestment in communities is necessary to maintain their vitality. The Fairfax County Office of Community Revitalization facilitates strategic redevelopment and investment opportunities in older commercial activity centers in the county. In general, the county’s revitalization plans support compact, pedestrian-oriented, mixed-use centers that reduce the need for automobiles and provide increased access to transit and other modes of transportation such as bicycling and walking. For more information, go to www.fcrevit.org. Much of the discussion below regarding revitalization projects has been provided to EQAC directly from OCR.61

a. Tysons Urban Center

By 2050, the 2,100 acre Tysons Urban Center will be transformed into a walkable, sustainable, urban center that will be home to up to 100,000 residents and 200,000 jobs. Tysons is envisioned to become a 24-hour urban center where people live, work and play; where people are engaged with their surroundings; and where people want to be. While there are economic costs and benefits associated with the redevelopment of Tysons, there are also non-monetary benefits such as cleaner air, improved water quality, sustained economic vitality and improved quality of life. Achieving the vision for Tysons depends on implementing

61 Provided to EQAC 2016 by Bridget F. Hill Revitalization Program Manager (OCR)
strategies that will reduce resource use and dependency, decrease detrimental environmental impacts and enhance the environment. Effective land use and transportation policies create the basic foundation for the sustainable Tysons.

The vision for Tysons is based on the concept of transit-oriented development, which is a land use pattern that emphasizes compact, dense, walkable neighborhoods focused around transit stops. National studies have shown that TODs: provide increased transit ridership; significantly improve the efficiency and effectiveness of transit service investments; lower annual household rates of driving for those living, working and/or shopping within transit station areas; produce lower rates of air pollution and energy consumption by providing safe and easy pedestrian access to transit; and reduce rates of greenhouse gas emissions. Further, aggressive transportation demand management programs, including parking management, are critical to achieving goals in the reduction of vehicle miles traveled.

The redevelopment of Tysons is being pursued in a manner that should reduce greenhouse gas emissions in accordance with the 2007 Cool Counties Climate Stabilization Initiative. Cool Counties is part of a national effort for counties to reduce global warming emissions 80 percent by 2050, at an achievable average annual reduction of two percent. For more information: www.fairfaxcounty.gov/living/environment/coolcounties/

The Cool Counties innovative energy efficiency and conservation strategies are being incorporated into all redevelopment projects. Tysons has a unique opportunity to become a leader in environmental stewardship, including protecting and improving the existing man-made and natural environments through such efforts including enhanced stormwater management, promotion of green buildings and provision of a green network of parks and open spaces.

*Stormwater Management* - The Fairfax County Comprehensive Plan calls for the use of Low Impact Development techniques such as rain gardens, vegetated swales, porous pavement and vegetated roofs. It also calls for the retention of the first inch of rainfall on-site and for stormwater management measures equivalent to the current LEED stormwater design credits.

*Green Buildings* - The Plan calls for all new residential buildings to achieve LEED certification, or an equivalent green building standard. Office and other nonresidential buildings are expected to achieve the higher standard of LEED Silver or equivalent.

*Green Network* - As new development occurs, a variety of urban parks, plazas, open spaces and recreational facilities will be created. These are intended to be connected by a network of trails for pedestrians and bicyclists. The park plan includes a central network of parks and open spaces.
signature park, a large multipurpose park, multiple urban parks, stream valley parks and trails.

Policies, experiences and lessons from Tysons are anticipated to be used as models for other portions of the county.

Information on development levels and progress on the various environmental expectations covered here are available in the annual report on Tysons, provided to the Board of Supervisors each fall. The current and previous reports are available online at: www.fairfaxcounty.gov/tysons/implementation/annual_report.htm

Tysons Partnership

In 2010, OCR worked with stakeholders in Tysons to form the Tysons Partnership. The Tysons Partnership is dedicated to an inclusive and collaborative process to achieve the successful redevelopment of Tysons into a pedestrian-oriented and economically vibrant urban place. The Tysons Partnership is a membership organization representing employers, landlords, developers, retail and residents; it also has non-voting participation from the county, professionals/consultants and neighborhood organizations.

Tysons Corner Urban Design Guidelines

In January 2012, the Board of Supervisors endorsed the Tysons Corner Urban Design Guidelines that provide recommendations to transition Tysons from an auto-oriented suburban location into a cohesive, functional, pedestrian-oriented and memorable urban destination. Grounded in the Comprehensive Plan core principles, the guidelines address the pedestrian realm, building and site design and interim conditions to define distinct identities and characteristics for the various neighborhoods. The guidelines have been used successfully by each of the pending and approved applications to inform the siting, building design and master planning of each project.

Tysons Corner Park Plans

To be a great downtown, Tysons Corner needs great parks. The Tysons Corner comprehensive plan amendment includes a conceptual park network and urban park service of 1.5 acres per 1,000 residents and 1 acre per 10,000 employees. The Plan also includes a typology of urban park types (pocket parks, civic plazas, common greens, and recreation-focused parks), a recommendation for 20 new athletic fields to be built by 2050, and guidance on restoration and enhancement of existing stream valley parks in Tysons.
As Tysons transforms from a suburban commercial center to a major regional urban center, the urban park network will distinguish Tysons as a great urban place. To help ensure that happens, the Park Authority, in collaboration with the Department of Planning and Zoning (DPZ) and OCR, embarked upon an effort in 2012 to develop a comprehensive park system plan for Tysons. The Tysons Park System Concept Plan was developed with the involvement of an interagency team and advisory group consisting of citizens, design professionals, urban park planners and members of the Tysons Partnership. After an extensive public input process, the plan was endorsed by the Park Authority Board on October 22, 2014. The Plan can be viewed at: http://www.fairfaxcounty.gov/parks/plandev/tysons-parks/downloads/tysons-park-system-concept-plan-final.pdf

The Tysons Park System Concept Plan functions as a conceptual guide to bring about future park development by the public, private and non-profit sectors to serve residents, employees and visitors. The plan is organized to several key elements, including park placement and typology, connectivity, athletic fields and other recreational facilities, civic spaces and community building features, and cultural and natural resource preservation and interpretation.

Progress on park commitments and park construction are included in the 2015 Report to the Board of Supervisors on Tysons, and can be viewed at: www.fairfaxcounty.gov/tysons/implementation/annual_report.htm

b. Reston Transit Station Areas

The Comprehensive Plan for the Reston’s Transit Station Areas was amended in 2014, to encourage development related to Reston’s new Metrorail Silver Line stations. The introduction of heavy rail to the Dulles corridor creates the opportunity
for new TODs in each of the station areas. The planning objective for these TOD districts is to create transit-focused neighborhoods within one-half mile of the transit stations that will encourage pedestrian activity to enliven the area throughout the day and evening. The emphasis is on creating places and connections that are safe, comfortable and attractive for pedestrians and bicyclists.

As with the TOD opportunities in Tysons, development opportunities around the Reston stations will increase the number of residential units, improve the walkability of the area and focus on infill development and an enhanced street network. The target development level is 28,000 new and existing residential units and approximately 30 million square feet of new and existing office uses. The resulting development will further the principles that Reston was founded upon, allowing people to live, work, shop, worship and recreate in the same community. The land use pattern will have positive impacts on both individuals and the environment. The new mixed-use development planned in the TSAs will allow people to access many of their daily needs within walking or biking distance. New connections from the existing trail and bike networks in the established residential neighborhoods will be made, linking residents and employees to the Metro. The expected benefits for personal health and quality of life include an overall reduction in health care costs and less time spent commuting. In addition, new development will provide more urban park space, improved green spaces and conservation of the existing natural environment through compact development and curbing sprawl.

Expected environmental benefits include reduced air pollution as result of reduced vehicle miles traveled and less impervious surfaces resulting in a decrease in stormwater runoff. Green building techniques support a reduction in energy consumption; implementation of innovative energy generation and management techniques is also envisioned. Overall, a new, more compact, development pattern will lessen the demand on the infrastructure through a more efficient use of resources.

Reston Area Urban Design Guidelines

OCR is developing Design Guidelines to support the approved Comprehensive Plan. The guidelines will build upon the plan recommendations and Fairfax County policies on Transit Oriented Development and environmental sustainability. Once completed, the Urban Design Guidelines will be used to evaluate development applications and site plans to encourage walkable, mixed use development that implements sustainable design practices.

c. Annandale Commercial Revitalization District

The 195 acre CRD is centered around the intersection of Columbia Pike and Route 236, and contains a wide variety of community serving office, retail and business uses bounded by stable residential neighborhoods.
In 2010, the board adopted an amendment to the Plan that incorporated a form-based planning approach to provide development flexibility by using building types, building heights and urban design guidance instead of Floor Area Ratio (FAR) to guide and shape development.

In July 2016, OCR sponsored a study of the Annandale CRD with a concentration on the “downtown” core along Columbia Pike. A mix of industry experts from the Urban Land Institute Washington Chapter conducted a Technical Assistance Panel (TAP) for Annandale. The purpose of the TAP was to provide short- to medium-term revitalization strategies that concentrate on the appearance, economic vitality, awareness and marketing of Annandale. The strategies identified included a mix of permanent changes and interim/temporary ideas to enhance Annandale. More information about the study and a copy of the TAP report can be found on OCR’s website at www.fcrevit.org/annandale/revitstrategies.html.

**Columbia Pike Streetscape Project**

A streetscape project comprised of 925 linear feet of brick paver sidewalk, street trees, curb and gutter, storm drainage items, benches, trash cans, and acorn style streetlights was completed along the north side of Columbia Pike from Maple Place to Tom Davis Drive in 2014. Benches and trash cans consistent with the Annandale Design Guidelines were installed as the final stage of this project in late 2015. This new streetscape project encourages pedestrian activity by providing the facilities needed to encourage safe travel between buildings, and through the creation of a sense of place along Columbia Pike.

d. **Bailey’s Crossroads/Seven Corners CRD**

The Bailey’s Crossroads/Seven Corners CRD is on the eastern edge of Fairfax County adjacent to Arlington County. This revitalization district includes two Community Business Centers – Bailey’s Crossroads and Seven Corners.
Baileys Crossroads

The Bailey’s Crossroads CBC encompasses approximately 530 acres of land surrounding the interchange of Leesburg Pike and Columbia Pike.

In 2010, the Board of Supervisors approved the Baileys CBC Plan Amendment. This Plan Amendment encourages a transition from a predominately retail environment to one that balances retail, office, residential, civic uses and open space. It includes a “Town Center” and transportation improvements to balance land use with infrastructure and provide intermodal connectivity.

A key element of the original plan was the Columbia Pike streetcar project. That was unilaterally cancelled by Arlington County in 2014, leaving the Fairfax County community without direct linkage to the Pentagon and Metro. Other elements of the long term vision remain in place to position the area for redevelopment.

Over the course of 2015 to 2016, work continued on the long-term redevelopment of the Southeastern Quad site in Baileys Crossroads. In 2016, the board approved a plan to develop a vacant site on Leesburg Pike with a pharmacy/retail strip center that places the parking to the rear, and provides a public plaza, enhanced landscaping and improved pedestrian connections. Also underway in 2016 is the review of a zoning proposal that would repurpose an existing vacant office building into a flexible multi-unit building where tenants could live, work or live and work in their units. The proposal would largely replace the building’s surface parking lot with permeable surfaces and landscaping.

Seven Corners

The 203 acre Seven Corners CBC is located at the confluence of the Seven Corners interchange, where Arlington Boulevard, Leesburg Pike and Wilson Boulevard intersect.
In 2015, the Board of Supervisors adopted an amendment to the Comprehensive Plan that envisions a higher density town center linked to two mixed-use walkable villages and includes a future higher capacity mass transit system on Leesburg Pike, such as Bus Rapid Transit, to better serve the area and connect it to the Metro at the East Falls Church station.

The Plan is expected to result in environmental benefits within the CBC. Currently, the area is completely built-out with extensive amounts of impervious surface. The CBC generally lacks modern stormwater management systems and buildings that meet green building guidelines. Through redevelopment in accordance with the Plan, there is an opportunity to achieve environmental goals, such as reducing runoff to improve water quality, reducing energy consumption due to a decreased reliance on automobiles, and replacing older buildings with newer, more energy-efficient buildings.

e. **Lake Anne Village Center Commercial Revitalization Area**

The 45 acre Lake Anne Village Center (LAVC) CRA is located within the planned community of Reston, in the northwestern portion of Fairfax County.

The CRA is focused around the 1965-era Washington Plaza, which was the first area to be developed in the planned community of Reston, Virginia. The Washington Plaza and portions of the adjacent parcels are designated as a Fairfax County Historic Overlay District. In June 2011, the Virginia Board of Historic Resources and the Virginia State Review Board endorsed the Historic District and Lake Anne for listing in the Virginia Landmarks Register and for forwarding to the National Park Service for nomination to the National Register of Historic Places.

As an important community asset, Fairfax County has invested significant resources to encourage and guide the revitalization of the CRA including: the 2006 purchase of the 16.5 acre Crescent Apartments property to preserve affordable housing and encourage revitalization; the adoption of a 2009 Plan Amendment to guide the mix of uses and intensities; the implementation of the 2011 Commercial Reinvestment Plan that has successfully stabilized and sustained the LAVC non-residential uses, and attracted new complementary establishments to the CRA; and, in December of 2014, the board further modified the Plan to achieve land use objectives.
Lake Anne Washington Plaza Design Charrette

In June 2015, OCR convened the Washington Plaza Design Charrette that brought together LAVC stakeholders with local planning and design professionals. The charrette, which was coordinated with the Lake Anne of Reston Condominium Association (LARCA), focused on the development of strategies and design solutions to enhance the Washington Plaza, and complement the transition from this historic area to the future redevelopment.

The participants recognized that Lake Anne is a unique but underutilized asset. Team concepts focused on ways to capitalize on the strengths of Lake Anne as part of an overall strategy to attract patrons to the LAVC and to the water’s edge. Recommendations included expanding the useable waterfront area by constructing floating docks for restaurant and recreational use; moving the boat rentals to the end of the commercial corridor to entice visitors to walk and patronize local establishments along the way; enhancing storefronts; and, creating spaces that would appeal to pedestrians and encourage them to sit and enjoy the views. There were also recommendations for a stronger maintenance program and the continuation of special events that contribute to the success of the LAVC.

With input from LARCA, the Reston Association and other community stakeholders, the design concepts are being further refined and incorporated into an action plan, that when implemented will revitalize and create vibrant synergy along the lakes edge.

f. McLean CRD

The 230 acre McLean CRD is located in the northeast portion of Fairfax County. The boundary of the McLean CRD is geographically coincident with that of the McLean CBC.

The Plan for the McLean CRD envisions the creation of community focal points that will provide a pedestrian-oriented main street in a south village and aesthetically integrated commercial uses in a north village.
In 2013, the Board of Supervisors adopted editorial edits to the Plan to clarify guidance for the McLean CBC; and, in 2014, approved an amendment to the Plan that redesignated the properties located northeast of Elm Street and southwest of Fleetwood Road from an Area of Minimum Change to a Redevelopment Area. The amended Plan provides for mixed-use development of up to 400,000 SF, with stipulations related to consolidation, building and site design, circulation, parking and stormwater management.

In July 2014, the board approved a rezoning application for a 4.43 acre site in the heart of downtown McLean. The Signet project will transform a single-use, surface-parked office site into a vibrant pedestrian-oriented, multi-family, mixed-use development with neighborhood-serving retail uses and well-designed open space that will entice residents and visitors alike. The plan includes a seven-story, 263,806 SF multi-family residential building with 123 condominiums, street level retail and 7,010 SF of new ground-floor retail space in an existing eight-story office building; underground parking; extensive streetscape improvements; open space with active and passive recreational equipment; a sensory garden; water feature, and public art. The groundbreaking for construction of this project was held in June 2016, with an anticipated delivery date of summer 2018.

**McLean Infrastructure Improvements**

In 2015, Fairfax County completed the McLean Gateway Signage project, which involved the installation of four gateway signs at four CBC gateway intersections. The McLean Gateway Project to construct and landscape a new median along Old dominion Drive will be completed in 2016.

The final plan for the McLean Streetscape Phase III project is under development. The project is anticipated to break ground in 2016, and will install brick pavers, lights and landscaping along both sides of Chain Bridge Road from Redmond Street to Curran Street.
g. Merrifield CRA

In 2001, the Board of Supervisors adopted an amendment to the Plan that created the Merrifield Suburban Center. The vision for the Merrifield Suburban Center includes two core areas: one focuses on development near the transit station and the second on a town center south of Route 29. A new “Main Street” will connect the two core areas.

Since the Plan’s adoption, many of recommendations have been completed and various policies or standards have changed. To reflect the current built environment in Merrifield, such as a new grid of streets, and to be consistent with current standards and policies, the Board of Supervisors adopted a Plan amendment (on October 18, 2016) to provide updated guidance.

Over the past decade Merrifield has been transforming into a thriving mixed-use area attracting new residents, while also supporting the surrounding existing neighborhoods. Recent mixed-use developments have brought additional residential, retail and office space and have included amenities such as improved pedestrian connections and open space. Projects in Merrifield include Halstead II, Avenir Place and Square 1400. Construction of the first phase of the Mosaic project, which is in the Town Center, was completed in fall 2013 with the opening of an urban-model Target, movie theatre, hotel, variety of retail, new park and townhomes. The final phase of the project is currently under construction and includes apartments and additional retail.

h. Richmond Highway Corridor CRD

The Richmond Highway corridor extends 7.5 miles from the Capital Beltway to Fort Belvoir. The CRD, which encompasses 700 acres, is not continuous, but rather consists of six distinct CBCs: North Gateway; Penn Daw; Beacon/Groveton; Hybla Valley/Gum Springs; South County Center; and Woodlawn.

The CBC's are envisioned as compact, walkable, mixed use, transit oriented communities that will be served by Bus Rapid Transit (BRT).
Huntington Avenue from Telegraph Road to Richmond Highway and the Huntington Transit Station Area are also areas of interest to revitalization. The Huntington TSA is envisioned to include transit-focused housing and employment to take advantage of its location surrounding the Huntington Metro station.

Recent residential development activity, resulting from a strong multi-family residential market and proximity to the Huntington Metro station, has been concentrated in the northern end of the Richmond Highway corridor and the Huntington TSA. Projects include the completed Beacon at Groveton and the Shelby at Penn Daw, as well as the Parker at Huntington, which is under construction. Further south, the Accotink Village development will be providing a solar panel on the rooftop to promote sustainability. All of these projects are pedestrian-oriented, with improved streetscapes, pedestrian amenities and stormwater management; some took advantage of a parking reduction to promote the use of transit.

A major multi-year effort is underway to plan for and implement a bus rapid transit system (BRT) that will operate primarily on dedicated lanes along Richmond Highway from the Huntington Metrorail Station to Prince William County; a future extension of the Metrorail Yellow Line to Hybla Valley will be included. The approach is called Embark Richmond Highway and, in addition to staff and consultant work, an appointed citizen advisory group was established to help guide the planning efforts and engage the broader community.

Transportation Projects

A number of significant transportation related activities are under way, including the following:

- Richmond Highway Widening – In 2011, the U.S. Department of Defense awarded $180 million to VDOT and Fairfax County for the design and construction of a project to widen a 3.4-mile segment of Richmond Highway from Telegraph Road to Mount Vernon Memorial Highway from four to six lanes. Under construction, the project includes the provision of a shared-use trail along
the northern edge and a pedestrian sidewalk along the southern edge, as well as on-road bicycle lanes. Construction of the project is projected to be completed by the winter of 2016/2017.

As part of its adopted six-year transportation plan, the Board of Supervisors approved $68 million for widening Richmond Highway from four to six lanes from Mount Vernon Memorial Highway to Napper Road. This project would include pedestrian and bicycle facilities and provisions for future transit.

- Transit Center Study – In 2015, Fairfax County completed a transit center feasibility study for the Richmond Highway Corridor. The Fairfax County Department of Transportation (FCDOT) has identified possible sites on Richmond Highway for a transit center that would accommodate bus transfers in a convenient one-stop location.

- Richmond Highway Public Transportation Initiative - The Richmond Highway Public Transportation Initiative is a multi-year project that started in 2004. The goal is to upgrade transit and pedestrian facilities along Richmond Highway. The initiative includes: improving bus service and pedestrian facilities; improving bus stop amenities and intersections to facilitate a safer and more inviting travel experience; developing or building bus transit centers; and using technology to make transit quicker and more utilized. Infrastructure improvements include: pedestrian improvements at 29 intersections such as cross-walks, pedestrian signals and pedestrian access improvements; completing 24 missing sidewalks or trail sections; and various bus stop improvements.

i. **Springfield CRD**

The vision for Springfield is contained in the Springfield Connectivity Plan, which was approved by the board in 2010. The Plan includes land use intensities within the CRD designed to spur redevelopment, new transportation infrastructure improvements and detailed guidance with respect to urban design, streetscape and placemaking. The transformation of the central business area into a walkable village town center convenient to well-located and maintained neighborhoods is under way. A number of older and/or vacant retail structures have been
redeveloped with new uses or updated structures, such as a Homewood Suites. A number of pedestrian improvements are being made to increase the safety and functionality of roadways in the CRD, including the removal and replacement of street trees, correcting safety concerns at two intersections, improving trail connections for bicyclists and replacing non-compliant bus shelters.

Design of a new commuter parking garage with a plaza and transit center is currently underway. It will be located on county-owned property adjacent to Old Keene Mill Road. The new facility will provide over 1,000 parking spaces for commuters, a number of bus bays, short-term parking, and pedestrian bridge over Old Keene Mill Road, and will be designed to facilitate slugging. There will also be two new public gathering spaces on the ground floor and the garage’s rooftop. The facility will be designed to accommodate community events during nights and weekends. It is anticipated that the garage will be complete in 2019.

Springfield Town Center

Redevelopment plans to transform the Springfield Mall into a mixed-use town center were approved by the board in 2009. The first phase of the new 2.1 million square foot Springfield Town Center opened in October 2014 and includes: renovation of the interior retail spaces; significant structural changes to the exterior façade facing Loisdale Road; repair and improvement of existing surface and structured parking; and improvements along Frontier Drive to improve pedestrian, bicycle and vehicular movement between the mall and the Franconia-Springfield Metro station.

The projected 20-year buildout of the approximately 80 acre site includes the addition of over 2,000 residential units, office, retail and hotel uses throughout the site. The vision for the Springfield Town Center is for a walkable community where people can live, work, shop and enjoy entertainment and community activities.

2. Region Forward Coalition

Region Forward is COG’s vision.

In 2010, the Metropolitan Washington Council of Governments’ Board of Directors published Region Forward, a vision document to create a more prosperous, accessible, livable and sustainable metropolitan Washington. They also created a coalition to lead the effort to turn these goals into better communities. The coalition is comprised of elected officials from each of COG’s member local governments; senior local government staff members; and representatives of business, civic, advocacy and philanthropic organizations.

During 2012, the region’s planning directors and the Region Forward Coalition worked to complete the new regional map of activity centers. In 2014, the coalition published a
report on strategies to improve activity centers. The project identifies goals, strategies and tools to assist local governments and other regional stakeholders in making investments in activity centers that enhance quality of life and strengthen the local and regional economy.

The report is available at:

The strategies combine land use and transportation together with new and existing places to continue growing in a sustainable manner.

3. Future Mega Projects

Over the past 10 years, the county has directed significant resources towards mega projects and revitalization. The rapid growth and investment in Tysons would not have been possible without the Metro expansion. Similarly, the successful Merrifield revitalization was anchored by a Metro station. As the county looks forward for the next 25 years, the next mega projects that include expansion of Metro should be starting in earnest now.

One project already in place is the Route 7 Corridor Transit Study / Envision Route 7.62 This is an in-depth assessment of the travel needs in the corridor that includes the development of potential recommendations to improve mobility and accessibility to and within the Route 7 corridor between Tysons and the City of Alexandria. It is being conducted by the Northern Virginia Transportation Commission (NVTC) and is funded by the Northern Virginia Transportation Authority. The primary objective of this study will be to assess the project for viability and, if desired, prepare for entrance into the Federal Transit Administration’s (FTA) Project Development process.

The public is welcome to participate through crowdsourcing on the study map at: http://www.envisionroute7.com/crowdsource/map

Many of the comments reflect both transportation and development concerns, how to live and work together in a busy corridor.

EQAC encourages the work on both Columbia Pike and Route 7. As the Metro expansion continues to Dulles, these projects can be anchors for the next round of transit expansion around the Beltway. The spoke from the Pentagon through Arlington to Bailey’s Crossroads then to Annandale was dealt a blow by Arlington’s decision to withdraw from the Columbia Pike streetcar project. Refocusing on the county needs to

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62 www.envisionroute7.com/
connect Tysons and Dulles to Springfield through Annandale would improve linkages within the county. Now is the time to prioritize these long-term projects.

4. Summary

Ensuring that the activity centers are vital and that they attract investment and growth is critical to the success of Fairfax County’s growth strategy. This is reflective of concern for sustainability and efficiencies in the provision of infrastructure and facilities and consistent with the Washington Council of Governments’ Region Forward 2050 plan.

Fairfax County is expected to increase both population and jobs by about 200,000 over next 20 years, and new infill development and redevelopment will be much more complicated to effectuate than the initial development within the county. There will be changes imposed on existing residents and businesses and impacts that are both real and perceived. By continuing to integrate land use, transportation and sustainable planning, the county can change and grow without sacrificing our quality of life.

E. ACCOMPLISHMENTS

While there is still much to be done, EQAC is pleased to recognize that several recommendations have been completed and significant long term projects are coming to fruition.

1. Silver Line Service to Dulles

In 2014, the Silver Line began service to Reston. This year, work continues on extending the line to Dulles Airport. This is one of the last mega-projects to revamp our aging infrastructure and extend core services.

2. State of the Plan and the Evolution of Fairfax

EQAC has long advocated for an update to the State of The Plan, An Evaluation of Comprehensive Plan Activities between 1990-1995 with an Assessment of Impacts through 2010 (published in 1996). The update was published in 2012. Notable is the process by which data were gathered for the report, using applications that leveraged IPLS and GIS. This report summarizes the changes to Plan potential that enables the county to continue growing beyond build-out.

In 2012, the Chairman of the Board of Supervisors, the Fairfax Federation and the Chamber of Commerce hosted a fascinating lecture series on the Evolution of Fairfax: changes to the county in the past, present and the future. The series is available for replay at: www.fairfaxcounty.gov/chairman/evolution.htm.
In 2013, the same hosts followed with an Evolution of Transportation evening. Together, the events provide a valuable archive and prediction of the future for land use and transportation in Fairfax County. The evening is available for replay at:

www.fairfaxcounty.gov/chairman/evolution-of-transportation.htm

3. **Update to the Comprehensive Plan Map**

The Comprehensive Plan map was updated by the Board of Supervisors on June 19, 2012 and is available on the Internet at:

www.fairfaxcounty.gov/dpz/comprehensiveplan/compplanmap.htm

A copy of this map is shown as Figure II-6.

Previously, EQAC recommended that changes to the Comprehensive Plan be quickly incorporated on the Plan map. This update and the timely publication of approved amendments make it easier and faster to find the latest information about the Comprehensive Plan. The Plan map is now an electronic document, and it will be updated on-line as amendments to the Plan are adopted.

4. **Green Buildings**

The county is becoming a leader in building green buildings and has adopted Comprehensive Plan policy that includes broad support for green building practices and establishes linkages between the incorporation of green building/energy conservation practices and the attainment of certain Comprehensive Plan options, planned uses and densities/intensities of development, particularly in the county’s growth centers.

EQAC commends the county for its commitment to green buildings and the Sustainable Development Policy for Capital Projects that requires building to achieve LEED certification. As of July 2015, the county had a total of 42 green building projects, 25 of which attained certification (23 under the LEED program and two under the Green Globes program). The other 17 projects, all of which have a goal of LEED Silver, are in design construction, or post construction. In addition, the county managed the LEED Gold Virginia Department of Transportation Administration Building. We are also encouraged to see 12 complete projects exceeding the sustainability goal—these were awarded LEED Gold certification. We hope that the county will further its leadership with some projects striving for Platinum certification.
F. COMMENTS AND ONGOING CONCERNS

1. Mega Projects

The county has seen the successful completion of several mega projects such as the I-495 Express Lanes and Beltway widening and the Dulles Corridor Rail Project. These projects fundamentally changed and improved the transportation flow in the region. As we look to the future, we advocate for a dialogue to begin on the next mega projects, which should include:
a. Continued expansion of Metro in the county through additional stops and expanding capacity on the existing lines. With the cancellation of the Columbia Pike streetcar, that corridor needs renewed focus to build the backbone for the next 20 years.
b. Focus on improving multi-modal options within and between urban centers, especially along the Richmond Highway corridor.
c. Continue working to improve transit utilization through a systematic plan that includes multiple options within a community. This can be combined with pedestrian improvements, more connector bus options and biking trails that together provide a diverse transportation plan.

We also see the challenges currently facing Metro and the problems with insufficient funding and maintenance of critical infrastructure. The discussion of future projects needs to include the support of existing built environment.

2. **Affordable Housing**

EQAC commends the Board of Supervisors for adopting “The Housing Blueprint: A Housing Strategy for FY 2011 and Beyond.” There are many land use and transportation efforts under way with significant relevance to the county’s housing goals. EQAC suggests that the county:

a. Continue to expand options for affordable housing by investing and partnering appropriately in locations that will need increased affordable options as the economy rebounds.
b. Identify vacant offices and homes in locales with good transit options and coordinate with the real estate industry to aid in marketing those properties, thereby supporting new tenants with quality of life perquisites, improved commuting options and better residential/commercial or mixed use utilization.
c. Coordinate with agencies and businesses to inform prospective/new workers of opportunities for desirable commutes and local housing amenities.

3. **Comprehensive Planning**

EQAC fully supports changes that have been made to the Comprehensive Plan update process and the retrospective analysis of changes that have been realized by the Plan over the past 37 years. The 2012 review of the Plan “State of the Plan, An Evaluation of Comprehensive Plan Activities between 2000-2010” (published in 2012) should continue to be updated every 10 years.

4. **Social Media Innovation**

EQAC commends the county for embracing new technology and leveraging the Web to share and interact with the public. We recommend that the county continue to integrate social media into the planning process and outreach efforts. This allows community participation
through Internet technologies and is more cost effective and far reaching than traditional media and outreach. Social media is very powerful for encouraging and educating people about alternative transportation options. The Envision 7 crowd sourcing map is one innovative example that can be replicated: www.envisionroute7.com/crowdsourced/map

G. RECOMMENDATIONS

1. Fairfax Forward

EQAC has been an advocate for the Fairfax Forward process to make holistic changes to the Comprehensive Plan. Fairfax Forward has delivered an ambitious work plan and should be commended for providing a wealth of information to the public on the county Web page. We recommend that any changes to the process focus on the community goals and the continued need for holistic review based on the broader county policies. With the focus of development on activity centers, we do not feel the prior Area Plans Review (APR) model (with North/South county reviews every four years that focused on individual sites within the county) afforded the opportunity to provide the comprehensive analysis necessary for developing high quality activity centers and ensuring that broader county policies are kept in line with best practices. Aspects such as sufficient parks and trails, multi-modal transportation, transportation demand management, storm-water management, energy efficiency and others do not get sufficient attention without a holistic approach.

2. Land Development Applications and Information

EQAC has been an advocate for enhanced tracking of land use and development activities to improve processes and provide insight into future potential. We recommend that the county develop an integrated application flow that tracks the complete land development lifecycle starting with Plan Amendment through Zoning Approval, Site Plan Approval and Building Permit issuance. This capability should be included in the new PLUS system. Further, the system should be able to track the quantity of development (gross floor area and number of residential units) along with use type (residential and nonresidential) at each stage of development activity.

EQAC commends the work being done in Tysons Corner to track development activity at the building level and to provide details in the Tysons Annual Report. We recommend that the other activity centers also be tracked at the building level vs. the parcel level, similar to the Tysons model. At any given point of time there should be accurate information about the existing development as well as the development that can be expected in the next five to 20 years (based on the development pipeline from the above recommendation). This should be a priority for the new planimetric update (estimated completion: 2020) to extend the attribute data for the buildings layer to include existing use and quantity of development.
3. **Urban Design Guidelines**

Urban guidelines are designed to improve the environment, quality of life, balance and safety of a well-planned mixed-use place. These new guidelines are driving the potential in Tysons Corner and can apply equally well to all transit areas, as well as suburban centers and community business centers. EQAC recommends that the county develop one countywide set of urban design guidelines that would have sufficient breadth to address variations in circumstances among mixed-use centers within the county, as opposed to the development of multiple area-specific urban design guidelines. These urban design guidelines should be the baseline expectation for development in mixed-use centers, with exceptions as necessary to accommodate site-specific considerations.

4. **Transportation**

EQAC supports the progress made to build a multi-modal transportation network, especially non-motorized options. EQAC recommends that this be continued and we enthusiastically support the goals of Fairfax Alliance for Better Bicycling which includes:

   a. Promote a bike friendly Fairfax.
   b. Fully fund the bicycle master plan and a Bike Fairfax program.
   c. Improve safety and relations with police and enforcement.
   d. Encouraging the Safe Routes to School project with FCPS.

H. **LIST OF REFERENCES**

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OTHERS

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