2014 ANNUAL REPORT ON THE ENVIRONMENT

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.

While the amount of available land 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.

In May 2012, the county issued a new report entitled State of the Plan—An Evaluation of Comprehensive Plan Activities Between 2000-2010. This report describes changes that have been happening in our approach to planning as the county transitions over time. Excerpts are included in this chapter, but the full report provides details beyond the summaries referenced herein.

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 Initiative, our region is the most congested in the country. In 1982, the average metropolitan resident spent 16 hours in congestion; by 2011 that ballooned to 67 hours wasted in congestion. That can be translated into $3.8 billion, 179 million hours and 85 million gallons of gas in lost productivity and wasted fuel.

During 2012, much progress was made on transportation mega-projects, including the Dulles Rail, I-495 Express Lanes and I-95 high-occupancy toll lane expansion, also known as the 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

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2 "Where We are Growing", Southern Environmental Law Center, 2002
3 Texas Transportation Initiative, 2012 Urban Mobility Report
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\(^4\) that combines land use and transportation into a new planning paradigm for the county. Tysons Corner will soon have four new Metrorail stations in an urban core that has 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, which are now open, and the future 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.\(^5\)

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 County. The report presents much needed data to plan for the future and incorporate future population and trends. It clearly 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. Mixed-use development is an important tool to 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 Vision. A variety of tools

\(^4\) Doug Carter citing Rick Smyre’s term at the Evolution of Fairfax Lecture, June 27, 2012.
were emphasized, including mixed use development and low impact development. In 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 becoming more 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.

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 10 years, the county has made great strides in integrating land use and transportation planning and decision making, as evidenced by many of the programs and projects detailed in this chapter. The challenge will always remain, however, in part because the county and individual landowners have primary authority for land use while the state has primary authority for transportation. The issues stemming from state control over practically all of the roads in the county will remain a major stumbling block. The challenge will also remain as an effect from the necessity of breaking down complex issues in order to manage them, to the point of establishing organizational structures based on the pieces, but not having the resources or authorities to put them back together in a comprehensive manner. The I-95 Express Lanes introduce yet another wrinkle, with a private corporation building a significant for-profit component to our infrastructure.

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.

This chapter provides:

- Background on current trends and concepts.
- An overview of planning technology.
- A discussion of county land use characteristics and planning tools.
- An overview of major transportation programs.
- A section that demonstrates the county’s integration of land use and transportation through ongoing projects and programs.

The chapter closes with sections on environmental stewardship, accomplishments and EQAC’s comments and recommendations.
1. Trends and Concepts

The Department of Planning and Zoning has the lead responsibility for land use planning in the county. Over the past several years, there has been a concerted effort to improve how the county plans for development and redevelopment. This culminated in 2012 with the Fairfax Forward, a project to modernize the planning process. In the past, the Comprehensive Plan was updated every several years through a process known as the Area Plans Review. The APR process reviewed new changes to the plan initiated by private parties. Over time, the APR process was augmented by special studies that addressed the full array of changes necessary to revitalize a neighborhood. The special studies were much more effective, and running both processes was a burden on our professional resources.

The most significant special study covered Tysons Corner. The Board of Supervisors appointed the Tysons Land Use Task Force in 2005 with a very ambitious charge to consider the redevelopment of the “downtown” for Fairfax County. The task force met for over five years and published “Transforming Tysons: Vision and Area Wide Recommendations” in 2008. The vision was assigned to the Planning Commission, which, in turn, appointed a special task force to craft language for a Comprehensive Plan Amendment. The task force worked with staff, the Tysons Land Use Task Force and the community to propose an amendment that was formally adopted by the board in June 2010.

The scope of Tysons Corner required new and creative approaches. The task force consisted of appointees who 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 professional 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. These were shared with members of the community to help them visualize the proposed vision. With the plan approved, new mechanisms will need to be adopted that encourage and monitor the vision and provide the ability to monitor the macro effects and provide mitigation options to make sure the reality aligns with the vision.

Fairfax Forward is a much needed program to address the transition from build-out to revitalization. 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\(^6\) 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” [emphasis 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 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:

http://www.sustainablecommunities.gov/aboutUs.html.

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

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\(^6\) [http://www.epa.gov/sustainability/basicinfo.htm](http://www.epa.gov/sustainability/basicinfo.htm)
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

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.\(^7\) 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. They have been successfully adopted as part of the Columbia Pike revitalization in Arlington County. The community worked through a series of **charrettes** with a planning consultant to create a vision for the new “pike.” Form Based Codes provide clear direction on the adopted vision, while incentives encourage developers to adopt the form as the Pike is redeveloped. In particular, developers who follow the codes have an expedited review and approval process.

The county has been adopting the use of **facilitated planning** for many of the special studies. The Tysons Corner Task Force used a private consultant, PB Placemaking, to facilitate community sessions. The Urban Land Institute has been assisting with the several other studies.

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

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7 Charter of the New Urbanism at: [http://www.cnu.org](http://www.cnu.org)
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, 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 streamflow.

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8 Greenbelt Alliance, Smart Infill: Creating More Livable Communities in the Bay Area, at http://www.greenbelt.org/research-news/publications/smart-infill/
9 Low Impact Development Center at: http://www.lid-stormwater.net/background.htm
pollution. One of the first green projects in the county was the green roof at the Providence District Supervisor’s office and the county has established a green building policy.

**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\(^\text{10}\), such as rebuilding aging bridges over the Beltway.

2. **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 build out 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 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.

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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 can mitigate unforeseen impacts of development. The TDM plan included in the Fairlee/Metro West rezoning set the standard for TDM in the county. As this development is completed and fully occupied, the results of the TDM plan will be monitored and adjusted as necessary.

- 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. TECHNOLOGY TO UNDERSTAND THE COUNTY

Fairfax County is a recognized leader in utilizing technology to better understand, explain and predict changes within our borders. The centerpiece of the technology is its Geographic Information System managed by GIS & Mapping Services, which is a branch of Fairfax County’s Department of Information Technology. It is tasked with developing, maintaining, coordinating, and distributing GIS/mapping data and technology to Fairfax County government agencies and residents. GIS provides a capability to “see” the county through maps, imagery and other geospatial data and helps analysts discover relationships between and among sets of computer-readable, geographically referenced data. To power the GIS, the county has assembled a comprehensive digital inventory of the 395 square miles within our borders. These investments in information technology and GIS are paying dividends in increased staff productivity using more and better data.

The Virtual Fairfax 3-D application is a wonderful example of the power of digital technology. EQAC strongly applauds the county for making Virtual Fairfax available to residents on the Internet. Virtual Fairfax has been upgraded to support new enhancements to 3-D building and terrain rendering. Besides being fascinating to fly through our neighborhoods, it is very practical for boards and commissions to visualize proposed changes and make more informed decisions. Site-specific information such as the Tysons Corner comprehensive plan intensity zones is very useful. Virtual Fairfax includes quick links to real estate assessment and land information for each parcel.
Another example of Fairfax County success is in providing Internet mapping and information reporting applications in My Neighborhood (http://www.fairfaxcounty.gov/gisapps/myneighborhood/default.aspx).

Its intended use is to let users know what features and facilities are available in and around their neighborhoods. Through the My Neighborhood application, you can find information about parks, schools, libraries, fire stations and other public facilities in your neighborhood. Map types allow you to see different layers of information about the same area, and reports contain detailed information about a specific area. A new My Neighborhood Report is under development and is anticipated to be released later in 2014.

Over the past several years, EQAC has advocated for an enhanced IT capability for managing and monitoring land use. Our original recommendations in this area focused on updating the 1970s mainframe-based Urban Development Information System. In 2005, the Integrated Parcel Lifecycle System debuted—IPLS combines parcel based information from various county agencies with the GIS. Many agencies work on parcels for a particular period, but IPLS allows that full lifecycle to be captured across agencies. Layering these data on the GIS allows for a visualization of how land in the county is used and how it changes over time.

Through work with the county’s Department of Information Technology, EQAC has become more familiar with capabilities and possibilities for using GIS. There are three attributes that must be in place for the technology to be effective:

The GIS and IPLS capability—these are the technical systems that gather, move, manipulate and display information based on geographic location.

Data that are geographically located, also called spatial data—this is an expensive component that needs to be constantly updated as the county changes. There are many sources of data, from aerial imagery to U.S. census data to county records, which need to be transformed into useable information.

Models and applications that can use the data to prepare for future scenarios and advanced visualization tools to help with decision making. The Visual Fairfax 3-D application is an example that leverages the GIS and data to help make informed decisions.

The next sections cover each of these topics in more detail.

1. **GIS and Integrated Parcel Lifecycle System**

   The IPLS is now available and staff has been doing outreach to train users across agencies on how to leverage the capability. IPLS data are accessible to all county staff via GIS clients (ArcMap) and Oracle clients (SQLplus, Toad, SAS, etc.). The main transformation is that IPLS provides users with GIS data that can be used for customized analysis. Prior systems would produce a report that summarized the data. This opens new possibilities for understanding and innovating with information.

   The current parcel data include:

   - Housing Units.
   - Households.
• Population.
• Development Pipeline.
• Gross Floor Area.
• Housing Value.
• Existing Land Use.

Data are spatially enabled and can be analyzed with the GIS tools. The information managed by IPLS is used by the county to help determine services and service provision levels, respond to state and federal reporting requirements and respond to regional initiatives such as transportation planning, air quality modeling and other programs of regional significance. One example of the increased resolution the system provides is enhanced demographic forecasts that take advantage of parcel characteristics such as age of structure, location, steepness and other features. County staff can evaluate 30-year demographic forecasts including low, high and “most likely” estimates. Staff is also able to produce reports in a GIS environment using user-defined geographies. Reports can be generated for population density, population forecasts, housing starts and completions, vacant land and underutilized land.

The uses of these data clearly go beyond the scope of EQAC but illustrate the interconnectedness of the systems. EQAC’s recommendation was narrowly focused on improving the county’s land use planning capability to enable better integration of land use and transportation. It turns out that many other organizations and departments also benefit from this capability.

EQAC commends the Department of Neighborhood and Community Services for its leadership and advocacy on the IPLS. EQAC also congratulates its predecessor agency, the Department of Systems Management for Human Services, on receiving the 2007 GIS Excellence Award for the Best GIS Integration or Application Development.

One of the benefits of tracking information at the parcel level is that very detailed analysis can be accomplished. However this granularity highlights the fact that the existing categories are no longer appropriate, especially as the county adopts more transit-oriented designs that incorporate mixed use development. Parcels in a mixed use development cross categories and parcels with multiple stories of mixed use further complicate simple analyses.

With IPLS in place, the county needs to develop an updated reporting methodology to accurately reflect the land use across the county. IPLS provides a base to analyze parcel information, but there is a considerable task remaining to synthesize that information and turn it into useful land use reports.

2. Data

The GIS analyses are only as reliable as the data they process. The county has acquired significant data and maintains these data on a regular basis. Prior EQAC recommendations focused on enhancing different types of data, and the following in particular:
- Planimetric data—features you can see, such as buildings, driveways, pools, railroads, ponds and trees.

- Surface Data—data that provide elevations of the county’s surface. It is essential data for stormwater analyses and dam inundation area determinations. Recently acquired LIDAR data also provide elevations of structures and tree canopy and is highly valuable in Urban Forestry canopy assessments.

- Oblique imagery—creating three-dimensional images and incorporating them into the planning process.

- Natural Resource data—identification of resources that should be considered during environmental and conservation planning efforts.

a. Planimetric Data

“Planimetric data” are features of the built and natural environment visible in aerial photography, including impervious surfaces. Planimetric map data provide information on the topographic features such as roads, buildings, and water bodies that are visible and identifiable on aerial photographs, which can be compiled into map features through photogrammetric or surveying procedures. Typical map features include roadway feature details as roads, sidewalks, streets, highways and alleys including curb lines, edge of paved surfaces and general feature details such as building footprints, building types, etc. Planimetric information for the Fairfax County Government Center area is shown in Figure II-1. Prior to initiating a project to update the planimetric data layer, an informal survey of the county’s GIS users identified a wide range of needs for updated planimetric data, including public safety, planning, transportation, public facility and park purposes. Therefore, this is far greater than an “environmental” initiative. The implications and benefits of this action are manifold and cut across numerous agency and disciplinary lines.

In 2013, the county completed a four-year effort to update the planimetric data in the county’s GIS. The previous update took place in 1997. For this project, 15 planimetric data features, locations, and attributes were updated:

- Airports
- Buildings.
- Building Additions.
- Hydrography areas and edges.
- Sidewalk centerlines.
- Recreational features.
- Storage tanks.
- Major Transportation areas and edges.
- Minor Transportation areas and edges.
- Contours.
- Spot elevations.
- Digital Terrain Models.
Below are project statistics on features added or updated:

- 120,880 buildings (76 percent are residential)
- 308 are multi-story garages (new feature)
- 262,851 paved driveways (new feature)
- 5,618 unpaved driveways (new feature)
- 4,083 miles of sidewalks
- 258,229 building additions (deck, patio, pool, other) (new feature)
- 6,300 recreational features (tennis, basketball courts, other) (new feature)
  - 1,318 Tennis courts
- 248,601 new spot elevations
- 136,357 miles of 2’ contours (new feature. Previously had 5’ contours)
- 5,190 linear miles of hydrography
- 703 storage tanks were added (new feature).

The total features in all the planimetric layers combined (including DTM) is 17,642,802. For reference, the 1997 version contained 3,771,137 features – this is an improvement of over 400% more features.
A new round of planimetric updates, based on 2013 orthoimagery from the state, is planned to start in early FY 2015.

b. Oblique Imagery

Oblique imagery is taken from an aircraft at an angle rather than straight down. The images can then be processed by software to show the sides of buildings and structures and measure their heights. The primary users of the oblique imagery are agencies such as the Department of Public Works, the Department of Tax Administration and public safety agencies to reduce field time in assessing, planning, and emergency response. Figure II-2 is a sample oblique image of the Government Center. Figure III-3 shows the results of converting these images into 3-D models and viewing them in the Virtual Fairfax 3-D viewer.

Oblique imagery begins to enable three-dimensional models and can have wide applicability beyond the county operations to public participation. In particular, the reviews of site- and area-specific Comprehensive Plan Amendments can benefit from better understanding three-dimensional areas around sites subject to proposed amendments.

Looking into the future, it could be possible to accept land-use proposals with three-dimensional Computer-Aided Design and Drafting data. The CADD models can be combined with 3-D buildings derived from oblique data to provide accurate 3-D representations of the changes. In effect, the county could begin examining proposals using fly-through technology overlaid on ground truth. This would be much more illustrative than artistic interpretations.

The county has oblique imagery collection in the current information technology plan. There is a new oblique imagery contract in place, replacing the one that expired in August 2012. EQAC recommends that the county continue to gather these data and to expand the use of 3-D analysis in planning.

c. Natural Resource Data

County staff held a series of discussions to determine which agencies currently possess ecological data and whether or not other agencies could use various ecological data as a shared resource. These data include Resource Protection Areas, wetlands, vegetative communities, hydric soils, tree cover and open space as well as archaeological and cultural resources. The Fairfax County Park Authority has spearheaded the effort to identify data resources and to develop analysis models to evaluate these data. Once appropriate models and protocols have been developed, they may be used in the future to identify areas that could be targeted for conservation or protection. Currently, the final product of this endeavor is envisioned as a model that will allow county staff to evaluate ecological resources. Also included will be a detailed report listing data sources needed and a plan to consolidate these data and recommendations on the applicability and appropriateness of the model and its limitations.
3. Models and Visualization

While the GIS and new data provide valuable insight by which to view the county, they do not necessarily provide new information. Models are computer programs that analyze the data and create reports or projections of future scenarios. The county regularly uses
transportation and traffic models to analyze congestion. Some of this information is reviewed in this chapter.

Computer models are complicated and expensive. However their use is becoming more important and expected for the special study planning approaches that are under way. The Tysons Land Use Task force relied on traffic projections for several development scenarios, and the results of these models weighed heavily in the decision to adopt the 2010 Comprehensive Plan for Tysons Corner.

The county made great strides in visualization tools available to the public with the Virtual Fairfax 3-D application. EQAC expects this application to greatly enhance the work of Area Plans Review task forces and encourages all new development proposals to include data sets compatible with Virtual Fairfax. Some sample screenshots of the Tysons Corner area are shown in Figure II-4 below. The second figure shows the proposed new density overlain on the existing conditions. Note that the 2-D screenshots are a poor substitute for the actual 3-D application.

C. 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 E. 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 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?

Fairfax County has 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-5.

- 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.

- 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.

11Staff Report for Plan Amendment S11-CW-2CP, April 26, 2012
Figure II-4: Virtual Fairfax--Tysons Corner Area
Figure II-5: Existing Land Uses in Fairfax County

<table>
<thead>
<tr>
<th>Category</th>
<th>January 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parks and Recreation</td>
<td>33,457</td>
</tr>
<tr>
<td>Residential</td>
<td>131,873</td>
</tr>
<tr>
<td>Public</td>
<td>11,601</td>
</tr>
<tr>
<td>Industrial</td>
<td>10,148</td>
</tr>
<tr>
<td>Commercial</td>
<td>25,433</td>
</tr>
<tr>
<td>Vacant and Natural Uses</td>
<td>15,361</td>
</tr>
</tbody>
</table>

Source: Fairfax County Department of Neighborhood and Community Services, 2013. 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.

- Parks and Recreation—are dedicated to public enjoyment and recreation.
- Public—are 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—are currently unused, either natural or vacant, but zoned for residential, industrial or commercial uses.

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 Web edition of the Comprehensive Plan is available at:

http://www.fairfaxcounty.gov/dpz/comprehensiveplan/

The current edition of the Fairfax County Comprehensive Plan consists of the Policy Plan, four Area Plans, the Plan map, and the Transportation Plan map. The Policy Plan has eleven functional sections plus a Chesapeake Bay Supplement. The functional sections, with links to their websites, are:

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

In 1990, the county’s Concept Map for Future Development was developed to guide projects. 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-6).

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. Fairfax Forward

On July 9, 2013, the Board of Supervisors adopted the Fairfax Forward process to supplant the Area Plans Review process. The centerpiece of this new process is a Comprehensive Plan Amendment Work Program through which current and future planning studies are considered. The initial three-year work program adopted by the board is considered to be a “Pilot Comprehensive Plan Amendment Work Program.” A multi-year calendar identifies planning activities contemplated beyond the three-year work program; this calendar will inform future reviews of the work program. Per the board’s action there will be a review after two years of the efficiency, effectiveness, accessibility and impact of the new process and pilot work program.

The process leading to the adoption of Fairfax Forward included public outreach efforts. These efforts ensured that there was ample opportunity for interested parties to gain an understanding of, and contribute to, the development of the work program. In addition to community meetings, staff also met with: Supervisors, Planning
Figure II-6: 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
Commissioners, the Planning Commission’s Policy and Procedures Committee, and board-appointed advisory committees, including EQAC and the Community Revitalization and Reinvestment Advisory Group.

**Update on Fairfax Forward**

The following information, current as of June 2014, has been provided by the Department of Planning and Zoning:

As of June 2014, 36 planning studies were listed on the 2013 Pilot Comprehensive Plan Amendment work program, and the Board of Supervisors authorized eight additional studies. Work on 27 of the studies is actively underway. The Board of Supervisors has acted upon a nine studies (since July 2013) that are considered complete.

In addition to the active studies listed on the [Pilot Comprehensive Plan Amendment Work Program](http://www.fairfaxcounty.gov/dpz/fairfaxforward/submissionform.htm), work on the two-year benchmark evaluation of Fairfax Forward is ongoing. A website dedicated to the 2015 Fairfax Forward Evaluation was published in March 2014. The website provides information to the public about the two parts of the evaluation and can be accessed here: [http://www.fairfaxcounty.gov/dpz/fairfaxforward/evaluation.htm](http://www.fairfaxcounty.gov/dpz/fairfaxforward/evaluation.htm)

Part I of the evaluation focuses on whether Fairfax Forward is achieving the overall goals of the process, which are: 1) establishing a systematic approach to reviewing all parts of the Comprehensive Plan; 2) expanding public participation and stakeholder collaboration in planning activities; 3) promoting a more focused approach to planning studies; and 4) monitoring planning trends and Plan implementation.

Measurable objectives were established for each goal, and a public participation survey and staff evaluation survey were developed to assess the objectives. Staff is distributing the public survey at open houses and community meetings for participants have an opportunity to provide feedback about public participation. The staff evaluation form is a means for staff members to contribute to the evaluation. The forms cover a variety of topics, which include clarity of presentations, project management, website and social media use and types of civic engagement techniques used. Separately, an analysis of completed studies, board-authorized Plan amendments and maintenance of a Plan quantification database will be considered.

Part II of the evaluation involves the review of the Comprehensive Plan Amendment Work Program. The procedure to submit proposals to amend a specific Comprehensive Plan recommendation, change the order of the Comprehensive Plan Amendment Work Program studies or add a study to the work program began on March 31, 2014 and remains open through February 1, 2016. The form can be assessed online: [http://www.fairfaxcounty.gov/dpz/fairfaxforward/submissionform.htm](http://www.fairfaxcounty.gov/dpz/fairfaxforward/submissionform.htm)

All proposals will be available on the Fairfax Forward evaluation website for public review. As of June 13, 2014, DPZ has not received any proposals.
Proposals are anticipated to be reviewed by staff beginning in February 2016, around the time Phase I is completed.

b. Overview of Plan Amendments Adopted in 2013 through July 1, 2014

A total of fourteen Plan amendments were adopted in 2013 through June 3, 2014. The following five amendments were acted on by the Board of Supervisors prior to adoption of the Work Program on July 9, 2013:

- **S11-CW-6CP, Fairfax Forward Editorial Updates**: Adoption of editorial updates to the Area Plans and the Preface of the Policy Plan. Adopted on February 12, 2013.
- **APR #09-IV-2MV and APR #09-IV-27MV, Huntington Club**: Addition of an option for mixed-use development to include residential, office, retail and hotel uses at an intensity up to 3.0 FAR. Adopted on February 26, 2013.
- **ST09-IV-MV1, Jefferson Manor/Huntington Station**: Addition of an option for mixed-use development to include residential, office and retail uses up to 2.15 FAR. Adopted on April 9, 2013.
- **S12-I-J1, West Falls Church Transit Station Area**: Removal of land units F, G, H, I and J from the West Falls Church TSA, replanning of nearby tracts and update to reflect existing conditions. Adopted on June 4, 2013.

The following ten Plan amendments were acted on by the Board of Supervisors after the adoption of the Work Program. A general description of each amendment and a link to the resulting adopted Comprehensive Plan text can be found here: [http://www.fairfaxcounty.gov/dpz/comprehensiveplan/planadopted.htm](http://www.fairfaxcounty.gov/dpz/comprehensiveplan/planadopted.htm)

- **S11-III-DS1, Dulles Station Parcel 5A**. Adopted on July 30, 2013.
- **ST09-III-DS1; S07-III-UP2; S09-III-UP2 – Route 28 Station Area- South; Rocks Property; Elden Street**. Adopted on December 3, 2013.
- **APR #09-IV-1MV and #09-IV-15MV, North Gateway CBC**. Adopted on January 28, 2014.
- **ST09-III-UP1(A), Reston Master Plan Special Study – Phase I, Reston Transit Station Areas**. Adopted on February 11, 2014.
- **S13-II-M1, 6862 Elm Street**. Adopted on March 25, 2014.
- **S13-IV-LP1, Vulcan Quarry**. Adopted on June 3, 2014.
- **2013-CW-3CP, Green Building Policy**. Adopted on July 1, 2014.
c. Status of Special Planning Studies/Plan Amendments Under Way

The Fairfax Forward website provides the most current information regarding the status of projects: http://www.fairfaxcounty.gov/dpz/fairfaxforward/.

Each study or Plan amendment page includes the study scope, anticipated timeline, upcoming meeting dates, presentations and reports as information becomes available. The Pilot Comprehensive Plan Amendment Work Program is updated as needed for board-authorized Plan amendments anticipated to begin in the 2013-2016 time frame, as well as studies that have been completed since the adoption of the Pilot Comprehensive Plan Amendment Work Program.

As of June 16, 2014, work on 28 Plan amendments is estimated to begin between 2013 and 2016. Of these amendments, nine are countywide, seven are for activity centers, four are for neighborhoods located outside of activity centers and eight are board-authorized amendments.

d. Area Plans Review

The Area Plans Review process, which has been supplanted by the Fairfax Forward effort (see the discussion above), was a community-wide review of site specific changes proposed to the Area Plan volumes of the Comprehensive Plan. The APR process was organized by the supervisor districts.

APR nominations spanned the county. Whereas the plans for Urban Centers, Suburban Centers and Transit Station Areas are comprehensive in scope, the APR nominations were opportunistic. Each nomination was analyzed thoroughly by staff to consider factors such as impacts on transportation, education and environmental resources of the individual nominations. The cumulative effects—the macro considerations, however, were not analyzed.

e. 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.
3. 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.

<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>

Note: 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
4. 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.

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-7. 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.

5. 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 certain Comprehensive Plan Options, planned uses and densities/intensities of development. In the county’s growth centers, commitments for green building practices sufficient to attain certification through the LEED® program or its equivalent were recommended for certain nonresidential and multi-story multifamily residential proposals (e.g., proposals seeking development at the high end of the planned density/intensity range; development seeking a Comprehensive Plan Option; development involving a change in use from what would be allowed as a permitted use under existing zoning; development at a planned Overlay Level). ENERGY STAR® Qualified Homes designations were recommended for any other residential development proposed at the high end of the Plan density range.

The amendment was adopted with the expectation to be reviewed in two years. The Planning Commission's Environment Committee review began in November 2009; this review resulted in a strawman draft amendment that was released for public review and comment. The comments review was completed in fall 2012, and a Planning Commission recommendation was transmitted to the Board of Supervisors in December 2012. In July 2013, the board authorized, through the Fairfax Forward program, a plan amendment consistent with this draft. This underwent additional review and public hearing by the Planning Commission. On July 1, 2014, the Board of Supervisors adopted the Green Building Policy amendment to the Comprehensive Plan.

The Planning Commission recommended 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.
- 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.

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12 Provided to EQAC 2014 by Department of Planning and Zoning—Planning Division
• 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.

The Board of Supervisors adopted the Plan amendment as recommended by the Planning Commission.

6. A Fairfax County Example: Merrifield Suburban Center

The Merrifield Suburban Center is just starting to emerge as a vibrant transit-oriented place in the county. An EQAC member who is the author of this chapter used to live near the Gallows Road and Lee Highway intersection; he reports that the changes in Merrifield have created a new destination—a new place that he looks forward to visiting. 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 has, however, been 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 has persevered. Merrifield, like all suburban areas, has unique challenges and, in this particular case, significant advantages, including:

• A Metrorail station that serves as the 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.
These challenges and advantages have combined to create a transformed place with new residents and amenities. The lessons of Merrifield should be captured to help repeat this success across the rest of the county.

D. 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. This is happening in Fairfax County, where the 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 the growing 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 and Dulles Toll Road that focused new growth further out in the county.

Induced development is an important concept, especially as the county addresses redevelopment and build out. 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.
- Fairfax Connector ten year Transit Development Plan (which serves as the main guide for service expansion and changes in Fairfax County): http://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 http://www.fairfaxcounty.gov/fcdot/2050transitstudy/.
- A seven-minute video presentation has been prepared on sustainable transportation in Tysons. http://www.youtube.com/watch?v=4xAPeDF5veo&feature=youtu.be

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: http://www.itdp.org/library/publications/the-tod-standard-draft.
- Fairfax Advocates for Better Bicycling is focusing on the need for good 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. A prime example is the Mosaic District surrounded by Lee Highway and Gallows Road. Both of these roads are not friendly for pedestrians or bikes. http://www.fabb-bikes.org.
- The National Complete Streets Coalition has provided a wealth of information regarding the complete streets concept. http://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 one of the most significant elements of transportation that has a major effect on the environment and is most closely related to land use and development. In modern times, people have become more reliant on the use of automobiles for business, pleasure and various daily functions and activities. The urban sprawl that has been experienced in Fairfax County and outer suburbs has greatly influenced this problem, causing 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 has long been 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** opportunities, namely walking and biking, have been looked upon as viable alternatives for reducing traffic congestion and improving air quality. Not having sufficient infrastructure for walking and biking is a major impediment to expanding non-motorized options. Over the past several years, these options have started to become more common in urban areas, notably in the District of Columbia. This component has an important relationship to land use planning and development in order to ensure that adequate facilities (walking and biking trails) are included in the plans.

“**Virtual transportation**” has surfaced in recent years as another viable alternative to motorized transportation. Modern technology has created opportunities for people to work out of their homes, using computers for telecommuting and e-commerce to perform their jobs. If these techniques become a more widely accepted means of performing one’s job, it would have a significant positive impact on reducing pollution and improving air quality. Fairfax County is a leader in this field with the Fairfax County Government Telework Program.

While there are many options, they are not used equally. The U.S. Census tracks the modes used by people to get to work each day. The 2012 data shows that of the 606,954 workers, 16 years and over, who live in Fairfax County:14

- 71.6 percent drove alone to work in a car, truck or van. (SOV)
- 10.2 percent of those workers commuted via carpool or vanpool. (HOV)
- 9.1 percent used public transportation (excluding taxicabs).
- 1.8 percent walked to work.

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14 Source: 2012 American Community Survey 1-year estimate. Area: Fairfax County.
• 1.6 percent used other means (including biking).
• 5.8 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: 15

“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 Fairfax County (see Table II-2), with another 16 percent working in the District of Columbia. Similarly, most of the workers in Fairfax County live in Fairfax County (see Table II-3); however over 80,000 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.

<table>
<thead>
<tr>
<th>Workplace</th>
<th>Number of Commuters from Fairfax County</th>
<th>Percent of Total Commuters from Fairfax County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairfax Co, VA</td>
<td>302,425</td>
<td>54.76%</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>90,207</td>
<td>16.33%</td>
</tr>
<tr>
<td>Arlington Co, VA</td>
<td>48,242</td>
<td>8.74%</td>
</tr>
<tr>
<td>Alexandria City VA</td>
<td>31,716</td>
<td>5.74%</td>
</tr>
<tr>
<td>Montgomery Co, MD</td>
<td>16,722</td>
<td>3.03%</td>
</tr>
<tr>
<td>Loudoun Co, VA</td>
<td>21,041</td>
<td>3.81%</td>
</tr>
<tr>
<td>Fairfax City, VA</td>
<td>17,904</td>
<td>3.24%</td>
</tr>
<tr>
<td>Prince George's Co, MD</td>
<td>9,948</td>
<td>1.80%</td>
</tr>
<tr>
<td>Prince William Co, VA</td>
<td>9,620</td>
<td>1.74%</td>
</tr>
<tr>
<td>Falls Church City, VA</td>
<td>4,446</td>
<td>0.81%</td>
</tr>
</tbody>
</table>

Source: [http://www.census.gov/population/metro/data/other.html](http://www.census.gov/population/metro/data/other.html) -- Residence County to Workplace County Flows for the United States and Puerto Rico Sorted by Residence Geography: 2006-2010

15 Source: January 2006 publication “Fairfax County and the Washington Region: A Look at Economic and Demographic Characteristics” (p.5):
Table II-3  
Where Do Workers in Fairfax County Come From?

<table>
<thead>
<tr>
<th>Residence</th>
<th>Number of Commuters to Fairfax County</th>
<th>Percent of Total to Fairfax County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairfax Co, VA</td>
<td>302,425</td>
<td>58.32%</td>
</tr>
<tr>
<td>Prince William Co, VA</td>
<td>55,692</td>
<td>10.74%</td>
</tr>
<tr>
<td>Loudoun Co, VA</td>
<td>55,044</td>
<td>10.61%</td>
</tr>
<tr>
<td>Montgomery Co, MD</td>
<td>21,585</td>
<td>4.16%</td>
</tr>
<tr>
<td>Arlington Co, VA</td>
<td>22,064</td>
<td>4.25%</td>
</tr>
<tr>
<td>Prince George's Co, MD</td>
<td>17,861</td>
<td>3.44%</td>
</tr>
<tr>
<td>Alexandria City, VA</td>
<td>15,028</td>
<td>2.90%</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>12,777</td>
<td>2.46%</td>
</tr>
<tr>
<td>Stafford Co, VA</td>
<td>8,005</td>
<td>1.54%</td>
</tr>
<tr>
<td>Fauquier Co, VA</td>
<td>5,542</td>
<td>1.07%</td>
</tr>
<tr>
<td>Manassas City, VA</td>
<td>2,528</td>
<td>0.49%</td>
</tr>
<tr>
<td>Total</td>
<td>518,551</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: Residence County to Workplace County Flows for the United States and Puerto Rico Sorted by Residence Geography: 2006-2010

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 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 VTrans2035. The next update to the comprehensive plan, VTrans2040, is currently under way, with visioning expected in 2015 and a final product in 2016.16

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 201217 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 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.18

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 Transportation19

On January 28, 2014, the Board of Supervisors approved a County Six-Year Plan for transportation with a priority project list for funding for FY 2015 – FY 2020. This new plan includes: nearly 200 new projects, totaling $1.4 billion in funding; improvements to roadways, bicycle and pedestrian facilities; and transit

16 http://www.vtrans.org/plans.asp
17 http://www.thenovaauthority.org/trans2040overview.html
19 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
improvements. It is envisioned that the CSYP 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.

Since 2004, significant bond and capital improvement funds have been used to supplement federal and VDOT managed projects in order to move them to construction. These include: Stringfellow Road widening (scheduled for completion in July 2015); Fairfax County Parkway/Fair Lakes Parkway/Monument Drive Interchange (completed in October 2013); the extension of Jeff Todd Way (formerly Mulligan Road) and Telegraph Road widening from Beulah to Leaf (scheduled for completion in November 2014); and widening of Telegraph Road from South Van Dorn Street to South Kings Highway (scheduled for completion in November 2014). Lorton Road, one of the largest projects managed by Fairfax County, is currently under construction, with scheduled completion in fall 2016.

b. Comprehensive Transit Plan/Transit Development Plan

In 2008, FCDOT completed a ten year Transit Development Plan, which has served as the main guide for Fairfax Connector and Metrobus service expansion and changes in Fairfax County. FCDOT is in the process of updating that plan. In June 2013, FCDOT issued the Notice to Proceed to TransSystems, Inc. to develop a comprehensive transit plan, a five-year update to the 2009 Transit Development Plan. The project includes the development of a financially-constrained six-year TDP as required by the Virginia Department of Rail and Public Transportation, as well as the development of an updated compliance program to meet the revised Title VI compliance requirements by the Federal Transit Administration. The CTP/TDP update includes:

- Data Collection:
  - Review relevant prior and current studies.
  - Collect and analyze current operating data.
  - Collect and analyze stop-by-stop bus boarding and alighting counts.

- Public Opinion Research:
  - Conduct on-board passenger attitudinal survey.
  - Conduct telephone survey of county residents, primarily non-users of bus service.
  - Use other research tools such as focus groups.

- Public Outreach:
  - Conduct meetings with elected officials.
  - Conduct meetings with public advisory groups.

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20 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
- Conduct meetings with local civic, business, and residential groups.
- Conduct meetings with the general public.
- Maintain a project Web page on the county website.
- Utilize other Web-based tools.

- **Service Recommendations:**
  - Review service changes since completion of 2009 FCDOT TDP.
  - Review performance of current services.
  - Recommend changes to current services as appropriate.
  - Recommend new services as appropriate.

- **Capital Project/Asset Recommendations:**
  - Review current capital projects and assets.
  - Recommend new capital projects and assets to support service recommendations.

- **Implementation Plan and TDP:**
  - Develop financially constrained 10-year implementation plan for service and capital recommendations.
  - Draft TDP for DRPT based on DRPT requirements.

- **Updated Title VI Compliance Program.**

The Virginia Department of Rail and Public Transportation requires each transit agency in the commonwealth to prepare a six-year financially constrained TDP. An annual TDP update letter was to have been submitted no later than October 2014.

c. **Urban street standards**\(^{21}\)

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. Recent General Assembly legislation allowed localities to work with VDOT to adopt new urban roadway standards.\(^{22}\)

FCDOT and VDOT have been working to implement changes in the VDOT Road Design Manual, Appendix B-2. This appendix was amended by VDOT in December 2013 after the Virginia Department of Rail and Public Transit completed its Multimodal System Design Guidelines. The appendix directly references the VDRPT document for design guidance and to modify road design standards to create urban

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\(^{21}\) Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation

\(^{22}\) Provided 2014 by John Muse, VDOT District Environmental Manager
street designs that meet VDOT criteria. One of the critical goals for FCDOT and VDOT is creating urban streets that meet VDOT standards and can be accepted into the statewide maintenance system.

A component of the urban street approval process is VDOT review of multi-modal networks in designated urban centers. This is structured as a two-phase process in which VDOT first reviews and approves the designated multi-modal corridors then reviews detailed cross-sections for each type of corridor. Both Phase I and Phase II of the review rely on Fairfax County Comprehensive Plan guidance for transportation modes within each corridor, which is dependent in part on the street type (local, avenue, boulevard, etc.). Many urban centers have defined cross-sections in the Comprehensive Plan text for various street types and these are expected to be incorporated into design standards for each urban center.

At present, the Franconia/Springfield Urban Center Phase I has been approved by VDOT. Phase I submittals have been provided to VDOT for the urban centers adjacent to rail stations in Reston. Other Phase I submissions will follow on a priority list developed by FCDOT. The timing of Phase II submissions will vary depending on other analysis and design elements that will be incorporated in these submissions.

d. Electric Vehicles

Electric vehicles offer an alternative to traditional 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.

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.

COG’s electric vehicle initiatives began with a workshop in early 2011 to examine successful local and regional EV readiness strategies and to begin the conversation on
a regional level on how to effectively and collectively deploy electric vehicle transportation technology. This led to the creation of a stakeholder-driven Task Force whose mission was to make recommendations for the region and local jurisdictions to consider programs to facilitate electric vehicles. Kambiz Agazi, Fairfax County Environmental Coordinator, served as Task Force co-chair, and subgroups were formed to address comprehensive planning, zoning, building codes and permitting/inspection, infrastructure siting, energy utility policy and outreach and education.

Task Force stakeholders contributing to the process included electric vehicle owners, state and local government staff (transportation and energy planners), electric vehicles Original Equipment Manufacturers, electric vehicle supply equipment suppliers, non-profit organizations (e.g., Georgetown Climate Center, Electric Drive Transportation Association, Electric Vehicle Association of Greater Washington DC), the Greater Washington Regional Clean Cities Coalition and electric utility representatives from the three states.

In 2012, COG published a report: “Electric Vehicles in Metropolitan Washington” (http://www.mwcog.org/store/item.asp?PUBLICATION_ID=449). The report provides a comprehensive look at regional EV readiness and offers recommendations to address barriers to EV use. The report stresses the benefits of EVs, including reducing greenhouse gases, improving air quality and dramatic fuel costs savings.

Although metropolitan Washington still has a relatively small electric vehicle market, consumer interest in EVs is growing and more models are becoming available. However, the region’s charging infrastructure and EV policy frameworks are not yet sufficient to accommodate more widespread adoption of these vehicles. COG’s inventory of EV charging stations in the region identified 332 chargers in 133 publicly available charging station locations. In terms of infrastructure, metropolitan Washington lags behind other regions, such as San Francisco and San Diego, in the number of EV charging stations, though this figure is increasing due to stimulus funding and private investment.

Furthermore, the absence of a clear policy framework for EV infrastructure planning – which considers permitting, citing, zoning, utility policy and other issues – exacerbates existing market barriers. The report notes that a streamlined regional strategy would help overcome these obstacles and encourage wider EV adoption.

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

1. Regional EV Partnership: 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. Incentives: Stakeholders should consider offering incentives such as preferred parking, HOV occupancy exceptions and tax credits to promote EV adoption.

3. Utility Planning and Policy: 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 Policy: Comprehensive plans and zoning regulations should guide EV infrastructure development and ensure that the built environment can accommodate future EV charging station installations.

During 2013, the Electric Vehicle Working Group focused on assisting government and business stakeholders in removing barriers to EV deployment in the Washington region. In January 2013, COG partnered with the Washington Auto Show to conduct a business case forum on how electric vehicles make good business sense. Presenters included MOM’s Organic Market, Capital One, FedEx, Eaton Corporation and SemaConnect.

The working group also explored the potential for developing a cooperative purchase of EVs and charging stations for COG member governments. Based on the interest received, COG will pursue the cooperative purchase of EVs, as well as other alternative fuel types and infrastructure part of its green purchasing initiative.

3. Non-motorized and Public Transportation

The following sections describe FCDOT programs related to multimodal and public transportation.

a. Walking – the Pedestrian Program

The Board of Supervisors has 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. These include projects on major roadways, in activity centers, providing access to Metro stations and completing neighborhood missing links. From FY 2008 through FY 2014, the county has completed construction on 108 sites/segments, with nine additional sites/segments under construction and another 63 under design. 24

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.

The Fairfax County Police Department conducts pedestrian safety enforcement in high pedestrian crash areas countywide. Fairfax County is one of the few

24 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
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.

VDOT administers the Transportation Alternatives Program (formerly the Transportation Enhancement Program) for qualifying activities. For FY 2015, the Commonwealth Transportation Board allocated funds to Fairfax County as follows:

- $400,000 for construction of a bikeway from the Fairfax County Parkway to the Franconia-Springfield Metrorail station.

- $353,057 for construction of a segment of the Cross County Trail to traverse the Lorton Arts Foundation and connect Occoquan Regional Park and the Laurel Hill Greenway.

- $400,000 for construction of a sidewalk along Old Courthouse Road from Creek Crossing Road to Westbriar Elementary School.

Applications for FY 2016 federal Transportation Alternatives Program are due this November. More details are available at: www.virginiadot.org/business/prenhancegrants.asp.

b. Biking --The Fairfax County Comprehensive Bicycle Initiative

Fairfax County’s bicycle program was established by the Board of Supervisors in late 2006 and the responsibilities for program implementation were assigned to the Department of Transportation. The program addresses both capital and non-capital bicycle projects. Some of the program’s early accomplishments included the installation of bicycle racks on all Fairfax Connector buses and the production of the county’s first bicycle route map, now in its third printing and also available on line and as a smartphone app.

The Bicycle Master Plan and the bicycle parking guidelines are both important. The parking guidelines need to expand on the success of the county’s new secure bicycle parking facilities at Silver Line stations and other county park-and-ride/transit facilities. Funding for implementation of both capital and non-capital elements of the county’s bicycle master plan is required. The county should consider implementation of “Bike Fairfax!”--a program for encouraging/promoting bicycling as a transportation mode with related education and outreach.

As directed by the Board of Supervisors, a major goal was the development and printing of the first “Fairfax County Bicycle Route Map,” issued on May 16, 2008, which was that year’s “Bike to Work Day.” The map defines a network of preferred as well as less preferred on-road bike routes that enable bicyclists to traverse the county. The county printed about 6,000 copies in the initial print job and another run

26 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
of approximately 41,000 as a result of demand for the maps. The Fairfax County Department of Transportation was also awarded a transportation enhancement grant for fiscal year 2010 to complete a bicycle map that highlights a route along historic Civil War sites in Fairfax County. Electronic copies of the “Fairfax County Bicycle Route Map” are available for download in pdf format at: http://www.fairfaxcounty.gov/fcdot/bike/bikemap/.

Current program highlights include:

- Finalizing the county’s Bicycle Master Plan and accompanying Comprehensive Plan Amendment. Approved in 2010 by the Board of Supervisors, work began in August 2010 to create a bicycle master plan for Fairfax County. In order to address the accelerated comprehensive planning efforts in Tysons Corner, the project was broken into two phases. Phase I focused on the greater Tysons area, including segments of McLean, Merrifield and Vienna, and was completed in 2011. Phase II covers the rest of Fairfax County.

- Increasing and enhancing bicycle parking countywide at park and ride lots and transit facilities as well as county facilities (e.g. libraries and government buildings). Initiated in 2009, this multi-year project has included the design and installation of 150 bicycle racks and 30 lockers at over 25 sites. Additional sites will be programmed based on funding availability. Staff continues to provide technical assistance to both public and private entities regarding bicycle parking, including equipment choices and placement.

- Implementing Fairfax County’s first “Bike & Ride” facility at Wiehle-Reston East Metrorail Station. This facility provides enclosed, secure bicycle parking for over 200 bikes. There are over 255 paid members accessing the room. Staff is finalizing work on additional new “Bike and Ride” facility at various locations countywide including: Phase II Silver Line stations, Stringfellow Road Park-and-Ride Transit Center and Springfield Community Business Center Commuter Parking Garage.

- Improving connectivity/access for bicyclists by completing missing links, providing wayfinding signage and retrofitting roadways with on-road bike lanes:
  - A new one mile segment of bikeway (referred to the Bobann Bikeway) connecting Centreville to the Stringfellow Road Park and Ride lot and Fair Lakes will be completed in fall 2014.
  - New trails in the Tysons area providing non-motorized access to the new Silver Line stations are in design.
  - A $400,000 grant has been awarded to initiate environmental analysis and preliminary engineering on the Cinderbed Bikeway, a new bicycle/pedestrian facility approximately three miles in length connecting the Franconia-Springfield Metrorail Station and the Springfield Central Business District to Fort Belvoir and other activity centers to the south.
  - A new trail segment connecting Towers Park to Vaden Drive, an integral part of the Vienna Metro-City of Fairfax-GMU Bike Route, is in design.
  - Bicycle wayfinding signage was installed last year in McLean’s Central Business District. Additional wayfinding signage will be installed in Tysons, Reston and
Merrifield/Vienna this coming year. The signage will delineate bicycle friendly routes to these activity centers and rail stations.

- A Western Fairfax Historic Cycle Tour was funded through a Federal Enhancement Grant—the project will establish a branded, signed family-friendly bicycle route connecting multiple sites of historic importance and a pocket map/guide. Project completion is scheduled for fall 2014.
- The Reston Capital Bikeshare Feasibility Study was funded through the Metropolitan Washington Council of Government’s Transportation/Land Use Connections Grant Program. This study examined the feasibility of expanding Capital Bikeshare to the Reston area. The study was completed in July 2014. A second grant providing $400,000 for bikeshare infrastructure is available.
- The On-Road Bike Initiative is a cooperative project between the Fairfax County department of Transportation and the Virginia Department of Transportation. In conjunction with the VDOT’s summer repaving program, roadways scheduled to be repaved are evaluated for retrofitting on-road bike facilities, including bike lanes, buffered bike lanes and bike shoulders. These efforts have contributed to the tripling of the number of on-road bike lanes in the county.

c. VDOT Pedestrian/Bicycling Facilities and Safety

VDOT administers the Safe Routes to School Program, a federally funded program to promote safe walking and bicycling to school by students, including those with disabilities. The SRTS Program offers funding grants for three different project types: (1) Infrastructure Projects; (2) Activities and Programs Projects; and (3) Quick Start Non-infrastructure Activities. On the latter funding program, 16 elementary schools in Fairfax County have received grants. More information is at: www.virginiadot.org/programs/ted_Rt2_school_pro.asp.

VDOT continues to ensure that biking remains an integral component of Virginia’s multimodal transportation system and is proud to be a local sponsor of Bike to Work Day events promoted by the Washington Area Bicyclist Association and Commuter Connections. In collaboration with county staff and partnering organizations, several initiatives have been implemented affecting bicyclists and pedestrians:

- Construction of the Route 50 widening project in Fairfax and Loudoun counties will include a shared use path on both sides.
- The Stringfellow Road widening project will include a sidewalk on one side, a shared use path on the other side and curb lanes that are 14 feet in width.
- Construction on the Route 7 between Rolling Holly Drive to Reston Avenue will have shared use paths for both sides.
- The Northern Virginia District is continuing to evaluate the existing route conditions of U.S. Bicycle Route 1 within the district. This route runs from Maine to Florida. The portion in Virginia was one of the first two national routes originally identified in 1982. Alternate routes have been evaluated and needed signage will be identified.

27 Ibid, 26
• The Northern Virginia District has started a maintenance contract to address safety issues along the 26-mile Fairfax County Parkway Trail. Phase 1 repair costs are expected to exceed $350,000.
• Virginia’s Safe Routes to School program promotes a comprehensive approach to enabling and encouraging students (K-8) to walk and bike to school safely. February was Crossing Guard Appreciation Month, when schools and parents nominated their guards to be recognized as one of “Virginia's Most Outstanding Crossing Guards of 2013.” VDOT presented three outstanding awards and two honorable mentions to guards in the Northern Virginia District.
• The 2014-15 paving season is under way by VDOT’s Infrastructure staff.
  • New four-foot shoulders are planned for portions of Old Keene Mill Road and the eastbound side of Braddock Road in Fairfax County.
  • VDOT’s The Northern Virginia District office continues to work with the localities in identifying roadway-striping opportunities to add bicycle facilities. Bike lanes are planned for Courthouse Road (west of Vienna) and Sherwood Hall Lane.
• The Reston Parkway corridor was a test case for traffic signals using the “rest in walk” phasing option for the side streets. Since this test was successful, VDOT is looking for other opportunities in the district where this signal phasing option can be implemented.
• A bicycle signal detection loop was implemented at the intersection of Soapstone Drive and Sunrise Valley Drive last year.
• VDOT installs shared lane pavement markings and Bikes May Use Full Lane signs around the district as appropriate locations are identified. Leading pedestrian intervals are being implemented at signalized intersection when the need is identified.
• A path along Chain Bridge under I-495 is being designed. It is part of the ongoing effort between VDOT and Fairfax County to complete the neighborhood connections to nine I-495 Beltway crossings.
• New bike lockers have recently been installed at one park and ride lot on Barta Road in the Saratoga area of Fairfax County.

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

d. Bus transit--Fairfax Connector and Metro Bus

County residents rely on the Fairfax Connector and Metro bus systems for complete transit coverage of the county. With the Silver Line opening, the Fairfax Connector coverage had to be modified to complement the faster Metro service available in the Northwest corner of the county. Between January and May 2013, FCDOT staff conducted public outreach to gather input on the Silver Line Bus Service Plan. In June 2013, FCDOT finalized the bus service plan to support the opening of Phase I of the Silver Line, which was approved by the Board of Supervisors in June 2013. The service changes took place concurrently with the opening of the Silver Line on July 26, 2014. A substantial part of the plan was the implementation of a short-term
cirkulator bus system within Tysons, called the Tysons Circulator (routes 422, 423 and 424), which provide frequent connections from the Silver Line stations in Tysons to the employment centers. These circulator routes connect to the stations in Tysons, as well as to the feeder bus service from McLean, Vienna and the Route 7 corridor.

Another major component of the Silver Line bus service plan was the redesign, modification and addition of new routes in the Dulles Corridor, feeding the Wiehle-Reston East Metrorail Station. In total, approximately 40% of all Fairfax Connector bus service has changed in FY 2014.

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. All buses purchased since 2009 are classified as mini-hybrids, for a total of 148 mini-hybrids. The maintenance and service buildings at West Ox have been converted to landfill gas for heat, which turns wasted energy into a useful product.

e. Bus Stop and Shelter Improvement Programs

A comprehensive inventory and study of all bus stops in Fairfax County identified undesirable bus stop conditions for priority action. The Board of Supervisors identified $2.5 million from the general fund and $7.75 million in the 2007 Transportation Bond for improvements to the priority stops identified in the study. A total of 320 sites have been completed since the bus stop improvement program began. There are currently 100 sites in project development, approximately 50 in design/land acquisition and 25 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 is expected to raise $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. To date, 65 bus shelters have been retrofitted with advertising, and 36 newly-installed sites have been completed. There are currently 63 sites being scoped for new shelter and infrastructure improvements for FY 2014. The program has raised $103,815 in revenue to date.

f. Express (HOT) Lanes Bus Service

FCDOT leveraged the Beltway express lanes to add additional transit in early 2013. Three new Express bus routes were added (Route 493 Lorton – Tysons, Route 494 Springfield – Tysons and Route 495 Burke Centre – Tysons.) To jumpstart ridership, the fares on the routes were reduced from the express fare of $3.65 to the base fare of $1.60 effective July 1, 2013. In addition, staff has redesigned the circulation patterns for these routes in Tysons to accompany the opening of Phase 1 of the Dulles Rail Project in late July 2014, and staff will continue to monitoring ridership and performance.
4. 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\(^{28}\) 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 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.

a. TDM tied to new development in Fairfax County\(^{29}\)

The county has integrated 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 2014, TDM proffers were received for new developments in Reston, Fairfax, Tysons Corner, Merrifield and Huntington. Refinement to the reporting format was performed to streamline staff’s ability to locate information quickly and also to remove redundancies, enabling quicker production times on the developer side. 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 benefit by all involved parties when compared to the previous method of securing TDM commitments.

b. TDM for Employers—Results of the Transportation Services Group\(^{30}\)

The combined transportation demand management programs and outreach efforts of the FCDOT Transportation Services Group, along with programs sponsored by the Metropolitan Washington Council of Governments Commuter Connections program,

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\(^{28}\) [mobilitylab.org/about-us/what-is-tdm/](http://mobilitylab.org/about-us/what-is-tdm/)

\(^{29}\) Transportation Information for EQAC 2013, Kris Morley-Nikfar, FCDOT & Updated June 8, 2011, Dan Southworth, FCDOT

\(^{30}\) Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
have allowed the county in fiscal year 2014 to continue to reach tens of thousands of people who live or work in Fairfax County with messages about environmentally friendly transportation options.

Transportation Demand Management programs have been implemented by 547 Fairfax County employers. Of those programs, 259 are at level three or four, which means the employers have implemented benefits or programs that 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 720 on-line applications from commuters looking for car or vanpool matches last year; over 240 participants were re-registered. RideSources staff assisted the regional Guaranteed Ride Home program by adding 383 commuters.

Information about transportation options such as the HOV and Express Toll lanes, RideSharing, Guaranteed Ride Home, car sharing, using bus and rail and teleworking is disseminated at events throughout Fairfax County. In total, FCDOT-TSG participated in over 54 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 11 additional Fairfax County employers and two new BEST SITES as “Best Workplaces for Commuters” in FY2014. This raises the total number of sites in Fairfax County to 38 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 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 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.

Fairfax County is working with the VDOT MEGA Projects and the Employer Solutions Team to provide transportation alternatives to employers impacted by I-495 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

The FCDOT Commuter Friendly Communities Program partnered with over 233 multi-family complexes, area developers and civic organizations to promote telecommuting, mass transit, carpools, vanpools, biking and walking instead of drive-alone commuting.

31 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
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\textsuperscript{32} and Options for County Employees

Fairfax County encourages employees to take public transportation to work through the Commuter Benefits Program. In 2014, there were 227 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 2014, there were 1,872 eligible county employees who teleworked at least one day a week.\textsuperscript{33} 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.

5. Highway Impact to Wetlands, Streams and Water Quality\textsuperscript{34}

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 on VDOT projects are avoided and minimized to the extent feasible. For unavoidable permanent impacts, Federal/State water quality laws and regulations may require compensatory mitigation. The Federal Mitigation Rule, issued April 10, 2008 by the Environmental Protection Agency and the U.S. Army Corps of Engineers, lists preferences for mitigation strategies. Compensation for impacts to aquatic resources is preferential: first to mitigation banks, second to in-lieu funds and third to permittee responsible mitigation (i.e., preservation, enhancement and creation.) The Virginia Department of Environmental Quality supports this preference hierarchy.

As a result, VDOT purchases wetland and stream credits from approved mitigation banks to compensate for unavoidable impacts to wetlands and streams in lieu of constructing mitigation sites. To date, VDOT has purchased slightly more than 30 wetland mitigation credits and 2,085 linear feet of stream credits associated with VDOT projects within

\textsuperscript{32} Ibid + E-mail from Catherine Chianese, Assistant Fairfax County Executive, Sept 7, 2011
\textsuperscript{33} Provided July 2014 by Sharon Kay Hackett Organizational Development and Training Division
\textsuperscript{34} Provided 2014 by John Muse, VDOT District Environmental Manager
Fairfax County. For the 2013/2014 fiscal year, VDOT purchased one-tenth of a wetland mitigation credit as required compensation for unavoidable wetland impacts associated with VDOT projects within Fairfax County.

Prior to the 2008 ruling, VDOT was required to design and construct on-site mitigation areas during project construction. Within Fairfax County, VDOT has created approximately eight acres of wetlands (seven acres non-tidal and one acre tidal) and restored 2,635 linear feet of streams as on-site compensatory mitigation for unavoidable impacts associated with previously completed VDOT construction 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 were constructed in the VDOT right-of-way and have fulfilled success establishment requirements set by the regulatory permitting agencies and now exist in perpetuity as protected conservation easements. The wetland and stream mitigation at the recently completed I-95/Telegraph Road interchange improvement project is one of that last remaining on-site mitigation projects. Sites under active permit require monitoring by VDOT staff over the next five years. The compensatory mitigation requirements included wetland enhancement/creation of 1.71 acres of tidal wetlands, 0.63 acre of non-tidal wetlands near the confluence of Taylor Run and Cameron Run and 0.36 acre of stream restoration to relocated tributary to Cameron Run.

VDOT has received comments from county staff and for compensatory mitigation to be within Fairfax County; however, the opportunity for the VDOT to purchase approved credits within the county is limited.

Since 1990, VDOT has been meeting its stormwater requirements by treating 858.55 acres of impervious road surface area through a system of 190 stormwater basins throughout the county. New stormwater regulations became effective on July 1, 2014. It is expected that acreage for treatment will increase as a result of these new regulations.

6. Highway Environmental Programs

VDOT contributes information to EQAC for this report and several additional programs that are visible in Fairfax County should be highlighted. VDOT Commissioner Kilpatrick recently communicated to the VDOT team that solving transportation problems, no matter how simple or complex, go beyond engineering and construction and involve quality of life, economic opportunity and environmental stewardship. EQAC appreciates and concurs with that new spirit.

a. Environmental Commitment and Compliance Assistance Program

The VDOT goal for environmental compliance is 100%. Since last July, VDOT has been developing a program to strengthen environmental compliance on construction projects. The primary objectives of this program are to establish a consistent process to communicate the environmental commitments (regulations, legislation and other

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35 Provided 2014 by John Muse, VDOT District Environmental Manager
legal requirements) at the beginning of a project’s construction and followed by active monitoring throughout the life of a project. This improves both compliance and proper implementation. The formal rollout of this program will be implemented by July 1, 2015.

b. **Highway Lighting and Signals**

VDOT Northern Region Operations maintains and operates 224 dynamic message signs, most of which were installed in the early 1980s. New DMS signs use LED technology. NRO initiated a program in 2010 to retrofit 29 failing DMS signs. In the past year, NRO retrofitted four DMS signs to LED technology. Plans are under way to remove or replace 65 other DMS signs with new LED DMS devices by summer 2015. The statistics for the DMS replacement are as follows:

- Nine DMS signs used for showing reversible gate status along I-395 will be replaced by December 2014.
- 36 DMS used for showing reversible gate status will be replaced for Express Lanes use by December 2014.
- Five DMS along I-95 will be removed or replaced and used by the Express Lanes by December 2014.
- Nine DMS signs on I-66 will be either removed or replaced by the I-66 Active Traffic Management project by spring 2015.
- Six bridge-mounted DMS structures are being removed under a new district wide contract, with an August, 2015 completion date. Four of the six will be replaced with new DMS devices; the remainder will be salvaged and reused.

Northern Region Operations conducted a limited condition assessment of the old signs and rated 18 as critical for replacement. They will soon be design-ready for replacement. NRO is identifying the next group of signs to be replaced and will use the Smart Roadway Technology funds to complete the design. This effort will begin in FY 2015. NRO maintains 1,382 traffic signals. Since the inception of a program to replace incandescent traffic signals with LEDs in 2002, almost all traffic signals, including amber indicators and turn arrow signals, have been replaced. Most of the full-blown LED deployments were achieved through NRO’s traffic signal rebuilds, modifications, and maintenance programs. The district no longer procures incandescent light bulbs for traffic signal use. NRO has earmarked any outstanding non-LED traffic signals and has plans to upgrade them by the end of FY 2016.

c. **Landscaping and Aesthetics**

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

- Completion of the I-495 Corridor-wide Landscaping/Reforestation Project from Braddock Road to Dulles Toll Road (14 miles along the inner and outer loops).
• Working with Tysons Corner on landscaping and bio-retention plans.
• Planned reforestation project at the I-66 Spot Improvement #2 Project.
• Landscaping along I-395 near Landmark Mews and Overlook Terrance.
• Continuation of work with the Fairfax County Restoration Project, Fairfax Re-Leaf and Fairfax County Stormwater Planning Section on re-forestation and stormwater management/water quality issues.

VDOT’s Wildflower Program is funded through revenue fees paid for wildflower license plates at the Virginia Department of Motor Vehicles. There are approximately 3.5 acres of right-of-way at four locations in Fairfax County managed as wildflower meadows. Warm season, native grass species are also utilized in VDOT’s roadside seed mix specifications on construction projects where opportunities exist to take advantage of low maintenance requirements. Targeted control of invasive and nuisance vegetation is a large part of VDOT’s roadside vegetation management program to promote the growth of more desirable species. Problematic roadside locations are prioritized for treatment and follow-up monitoring to reduce the population to a manageable level. For example, vegetation control work along segments of the pedestrian/ bicycle path along the Fairfax County/Franconia-Springfield Parkway was undertaken to remove and control encroaching brush as well as treat weeds growing in seams and cracks to provide a safer surface for path users. Plans are under way to revise VDOT’s Roadside Development Sheet to remove Lespedeza and tall fescue for seeding on construction projects. Finally, VDOT continues to participate on the Board of Directors for the Community Appearance Alliance of Northern Virginia--an organization dedicated to improving the visual quality between created and natural environments in Northern Virginia.

d. Research

VDOT’s research division, the Virginia Center for Transportation Innovation and Research, conducts research on current and future environmental topics related to maintenance, construction and operations of transportation systems. Current research projects include:

• **Assessment of Low Impact Development Strategies for the Lorton Road Widening Project, Fairfax County, Virginia:** The primary objectives of this study are to: (1) determine the effectiveness of multiple LID systems for mitigating potential adverse impacts of highway stormwater runoff; and (2) determine the maintenance requirements, procedures and costs associated with LIDs used in the highway setting. Phase I is under way and involves the characterization (both quantity and quality) of runoff from Lorton Road prior to LID construction. This will serve as a baseline to determine the pollutant removal efficiency of LID technologies once they are installed and monitored. This information will help determine the performance of vegetated roadsides and the effects on performance of various vegetation management and maintenance routines. Current efforts are concentrated on three automatic samplers and flow monitors located at a single location to aid in this characterization. Pre-
construction monitoring will continue until construction initiation (expected completion fall of 2015). Subsequent sampling will take place at new sites as construction allows.

- **Permeable Pavement Pilot Using Porous Asphalt:** This study addresses questions pertaining to installation costs, constructability, maintenance requirements and long-term hydraulic performance of permeable pavements. The scope of the study is the installation, monitoring and evaluation of a single type of permeable pavement, porous asphalt. The pilot project is located at the I-66/Route 234 Bypass Park and Ride Facility in Prince William County. The study began with the installation of the permeable pavement in March 2013. Following construction, initial permeability readings were taken at six primary sampling locations and 18 auxiliary points. Follow-up sampling was done in July 2013. In November 2013, permeability was measured again and then two of the four sections of the pavement were maintained using two different vacuum systems: a standard vacuum truck and a regenerative air vacuum system. Five days after the maintenance, permeability readings were taken again. Readings were taken again in May 2014 and selected sections will be cleaned, immediately followed by additional permeability tests. The project is scheduled to be complete in fall 2016.

### 7. Major Transportation Projects

The following section provides updates on the major transportation programs across the county in 2013.

#### 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. The construction activity is complete with major work efforts on the alignment along the entire the Silver Line, tunnel construction along Route 123 between International Drive and Route 7 in Tysons Corner and at all five stations. Substantial completion for the Silver Line, Phase 1 was declared in April 2014 and passenger service began in July 2014.

The DCMP has been working closely with landowners in Tysons Corner to accommodate requests by landowners to provide for direct connections to the Metrorail system. An agreement has been reached with Tysons Corner Center to adapt the south side entry pavilion at Tysons Corner Station to accommodate the development conditions placed in an approved rezoning.

Fairfax County has completed construction on the below-grade 2,300 space commuter parking garage, 10 bus bays, 45 kiss-and-ride spaces and 150 secure bicycle spaces at the Wiehle-Reston East Station. The commuter parking garage became operational in conjunction with the start of Silver Line passenger service in July 2014. The commuter parking garage is owned and maintained by Fairfax

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36 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
Comstock Partners continues construction of the mixed use development that will include approximately 1.3 million square feet of office, retail and residential uses; 19.5% of the residential units will be affordable dwelling units.

The Metropolitan Washington Airports Authority has completed 100% Preliminary Engineering and the Independent Cost Estimate for Phase 2 (March 2012) of the Dulles Corridor Metrorail Extension (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 will be constructed for MWAA by Capital Rail Constructors, a joint venture between Clark Construction and Kiewet International. The Phase 2 contract was awarded in May 2013 with Notice to Proceed in July 2013. Design efforts are currently under way for the three new stations in the county in addition to the future park-and-ride garages at Innovation Center Station and Herndon Station that are to be constructed by the county. Silver Line, Phase 2 substantial completion is expected in summer 2018 with passenger service beginning in late 2018.

On February 23, 2010, the Board of Supervisors approved a Special Exception Amendment for expansion of the West Falls Church Services and Inspection Yard to accommodate rail car storage and maintenance for Phase 1 of the DCMP extension to Wiehle Avenue. The SEA expanded the yard capacity by 42 rail cars and added more maintenance bays in a new annex building. As part of the approval, MWAA and WMATA constructed a new storm water management detention pond and rehabilitated the existing stream traversing the property. In addition, a $10 to $12 million sound cover box has been completed over the eastern most curved track in the yard to reduce “wheel squeal” that occurs as rail cars are moved within the yard.

A Silver Line, Phase 1 bus service coordination plan was developed and coordinated by staff from the various service providers impacted by the DCMP: Fairfax Connector; Metrobus; Potomac and Rappahannock Transportation Commission; Loudoun County Transit; and MWAA – Washington Flyer. Staff has coordinated bus routes, bus bay assignments and other operational elements related to bus service to and from Phase 1 stations.

b. I-95 Express Lanes

The Virginia Department of Transportation is partnering with Fluor-Transurban to develop a new I-95 Express Lanes project that will run from Garrisonville Road in Stafford County to Edsall Road in Fairfax County.

This new project will create approximately 29 miles of Express Lanes on I-95. This project will add capacity to the existing high occupancy vehicle lanes from the Prince William Parkway to the vicinity of Edsall Road and will improve the existing two HOV lanes for six miles from Route 234 to the Prince William Parkway. A nine-mile reversible two-lane extension of the existing HOV lanes from Dumfries to Garrisonville Road in Stafford County will help to alleviate the worst traffic bottleneck in the region.

As a separate project, plans are also being advanced to construct a direct ramp from the existing HOV lanes on I-395 to Seminary Road, which will connect the Mark
Center site to this expanded regional transit and HOV network. The ramp will be restricted to transit and HOV use only.

VDOT held the design public hearings for the I-95 Express Lanes and responded to all comments received. The Federal Highway Administration issued a finding of no significant impact on December 5, 2011. VDOT and Fluor-Transurban have come to a principle agreement and have finalized the agreement with the Concessionaire. The design of the project is complete, and VDOT has approved a noise wall study. Construction on all four phases of the project is ongoing and is 33 percent complete.

The Express Lanes project will directly link the I-95 HOV lanes to new express lanes on the Capital Beltway, creating a free-flowing network spanning more than 40 miles and providing direct HOV and transit service to major Virginia-based employment centers including Tysons Corner, Merrifield, Fort Belvoir and Quantico. The project will also relieve one of the worst traffic bottlenecks in the region, where the existing HOV lanes currently end at Route 234 in Dumfries. Carpool with three or more people, vanpools and transit vehicles will have free access to the express lanes network. The express lanes will keep traffic moving by using dynamic tolling that will adjust tolls based on real-time traffic conditions, video technology to identify accidents, a series of electronic signs to communicate with drivers and state troopers to ensure enforcement. These strategies will help maintain travel speeds, make travel times more predictable and significantly reduce the number of violations. Construction of the project is expected to support more than 8,000 jobs.

c. Express Lanes on the Beltway

Completed in November 2012, this project includes fourteen miles of new high-occupancy toll lanes (two in each direction) on I-495 between the Springfield Interchange and just north of the Dulles Toll Road. These HOT lanes allow the Beltway to offer HOV-3 connections with I-95/395, I-66 and the Dulles Toll Road for the first time. Buses, carpools and vanpools with three or more people and motorcycles can ride in the new lanes for free. Vehicles carrying one or two people can either travel for free in the regular lanes or pay a toll to ride in the HOT lanes. Tolls for the HOT lanes change according to traffic conditions, which will regulate demand for the lanes and keep them congestion free - even during peak hours.

The project also revitalizes the Beltway’s 45-year-old infrastructure, replacing more than 50 bridges and overpasses, upgrading 10 interchanges and improving bike and pedestrian access. This project was funded through a public-private partnership between the Virginia Department of Transportation and Fluor-Transurban.

d. Columbia Pike Streetcar Project

The Columbia Pike streetcar project is a joint effort by Arlington and Fairfax counties to improve transit options along Columbia Pike. The streetcar will run 7.4 miles from Skyline in Fairfax County, along Columbia Pike, and through Pentagon City and Crystal City to Potomac Yard. It's divided up into a Columbia Pike section to

37 Provided 2014 by Kris Morley-Nikfar, Fairfax County Department of Transportation
Pentagon City and a Crystal City-Potomac Yard section, and will connect to regional transportation -- VRE, Metrorail, and bus lines. 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 is 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 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 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.

The Columbia Pike Streetcar Project is in the environmental documentation stage. A letter from the Federal Transit Administration agreed with the initial recommendation by the counties and their consultants that the environmental documentation needed for this project is an Environmental Assessment. As part of the EA, the project team also evaluated four alternatives. The four alternatives are a no build, enhancing the existing bus service with additional buses, replacing some of the existing buses with articulated buses and replacing some of the existing buses with a streetcar system. As part of the combined alternatives analysis/EA document, the EA will determine the environmental impacts, ultimate alignment, minor preliminary engineering, a financial strategy and a project sponsor/operator that will advance the project through full engineering, construction and operation. The draft AA/EA was approved by the FTA to be released for public comment. Funding for this project was anticipated to be from FTA, local and state transportation fund fees and taxes, as well as other options. The public comment period went from May 22, 2012 to June 21, 2012, with two public meetings June 6 (in Arlington County) and June 7 (in Fairfax County). A final determination on the environmental impacts is not expected to be issued until preliminary engineering has been completed and if federal financing is used to build the streetcar project.

The Arlington and Fairfax County boards reaffirmed the modified streetcar alternative as the preferred alternative and accepted the Alternative

38 http://salsa3.salsalabs.com/o/2041/t/0/blastContent.jsp?email_blast_KEY=1295383
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Analysis/Environmental Assessment on July 24, 2012 and July 31, 2012, respectively. In September 2012, Arlington and Fairfax counties submitted an application to enter the FTA Small Starts program. Arlington County submitted the application on behalf of both counties, as there can only be one project sponsor. Fairfax County is a partner with Arlington County on the project. In April 2013, the FTA notified Arlington County that the project was not approved into the Project Development phase at this time. FTA notified the counties that the project was not accepted for two reasons:

1. The project was likely to exceed the $250 million threshold that is the upper limit for a Small Starts project. Therefore, this project should be judged as a New Starts project.

2. The introduction of a new transportation authorization act: Moving Ahead for Progress in the 21st Century, changed the funding program for major transit investments. The counties were notified that that project would need to be evaluated under the MAP-21 requirements, which went into effect in October 2012, after the application to enter the Small Starts program had been submitted.

Currently, the counties are not pursuing the FTA New Start Program to seek funding for the Streetcar Project, as the state has identified $65 million to assist with the project. The state money would allow the project to be built more quickly and at a reduced cost. The current cost estimate for the project is around $356 million. The counties are currently working together under a memorandum of agreement that was approved by both boards in July 2013. The MOA covers updating environmental and planning work associated with the streetcar should a Finding of No Significance be needed to satisfy federal requirements. Arlington County has hired consultant assistance to supplement county staff and is currently looking at hiring a firm to complete preliminary engineering for the project. Fairfax County is updating and amending the current MOA that was to have gone to the Board of Supervisors in fall 2014. The amended MOA will allow Fairfax County to be party to the consultants Arlington has hired for the Streetcar Project. The current MOA and the amended MOA do contain cost splits between the counties to complete the planning, environmental and subsequent engineering work. Fairfax County’s commitment under the current MOA is 19.6 percent, with Arlington County covering the remainder. Fairfax County’s commitment for capital and operating expenses will be determined at a future date.

Updates on the Columbia Pike Streetcar project can be found on the following link: http://www.columbiapikeva.us/streetcar-transit/

e. Route 1 Widening Through Fort Belvoir

Route 1 through Fort Belvoir will be widened to six lanes from Telegraph Road to Mount Vernon Memorial Highway (approximately 3.4 miles). The project will include intersection improvements and provisions for bicycles, pedestrians and transit. It will also reserve right of way for future high-quality transit. The Federal Highway Administration completed an Environmental Assessment to comply with
the National Environmental Policy Act. FCDOT prepared preliminary engineering documents in support of the EA. The project is administered by FHA in cooperation with the county, VDOT and U.S. Army Garrison Fort Belvoir. The design-build contract was awarded in April 2013, with target completion of the project in mid-2016.

f. Roadway Improvement Program and Four-Year Transportation Program

In 2004 and 2007, voters approved bond referenda totaling $165 million for roadway, transit, pedestrian and bus stop improvements throughout Fairfax County. Approximately $71 million in bond funds were directed to roadway improvements, and the county initiated a Four-Year Transportation Program. In addition, funds raised through the Commercial and Industrial Revenue Tax are used for transportation and transit improvement projects. Significant bond and C&I funds have been used to supplement federal and VDOT-managed projects in order to move them to construction. These include the Stringfellow Road widening, the Fairfax County Parkway/Fair Lakes Parkway/Monument Drive interchange, Route 29/Gallows Road intersection improvements, Centreville Road widening and BRAC-related roadway improvements, such as the extension of Jeff Todd Way (formerly Mulligan Road) and widening of Telegraph Road.

Through FY 2013, all major and spot roadway improvement projects noted in the first Four-Year Transportation Program, managed by the county, have been completed. Of the major and spot roadway improvement projects noted in the second 4YTP which are managed by the county, two have been completed and six are under design. Lorton Road, the largest of these projects, is scheduled for bid advertisement in October 2013. Additionally, five major and spot roadway improvement projects, funded by C&I revenue, are currently under design, four are under construction and three are complete.

The first 4YTP (2004 to 2007) included several major roadway projects that are being managed by VDOT, which are not yet complete. The Beltway Express Lanes project was completed in December 2012; the Route 29/Gallows Road Intersection Improvement was completed in November 2012; the Stringfellow Road widening project is under construction and is scheduled for completion in July 2015.

The second 4YTP (2008 to 2011) included three VDOT-managed projects that are still in construction: the Springfield Interchange Phase VIII (part of the Beltway Express Lanes project) was completed in December 2012; the Telegraph Road interchange (part of the Woodrow Wilson Bridge project) was completed in March 2013; and the Fairfax County Parkway/Fair Lakes Parkway/Monument Drive interchange project was nearing completion as of the date of preparation of this report.
E. 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 the environmental quality that we treasure. But to do so requires sophisticated planning that combines 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® standards 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. Zoning Ordinance Amendment Work Program

In the past, EQAC focused on planning, but zoning is an important factor in the overall development process. Zoning defines the requirements that affect all aspects of a development, including land use and transportation. One item on the 2014 Priority 1 Zoning Ordinance Amendment Work Plan that is of particular note concerns parking reductions in transit oriented areas. In order to reduce energy consumption, improve air quality, reduce the amount of impervious surfaces and encourage the use of mass transit, there is an item on the work program to consider applying parking maximums and a reduction of the minimum parking requirements due to transit oriented areas and/or transportation demand provisions. This item has been addressed in the Tyson Corner area with the adoption of the new Planned Tysons Corner Urban District on June 22, 2010 and will be addressed in other areas as part of the PDC and PRM District Amendment that is tentatively scheduled for public hearings in spring 2015.

2. 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](http://www.fcrevit.org). Much of the discussion below regarding revitalization projects has been provided to EQAC directly from OCR.39

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

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39 Provided to EQAC 2014 by Bridget F. Hill Revitalization Program Manager (OCR)
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 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 Cool Counties Climate Stabilization Initiative adopted by the Fairfax County Board of Supervisors. 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 through protecting and improving the existing man-made and natural environments through enhanced stormwater management, promotion of green buildings and provision of a green network of parks and open spaces, among other things.

*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 will be connected by a "greenway" - a network of trails for pedestrians and bicyclists. The park plan includes a central 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.
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. The Tysons Partnership is organized into six councils: Marketing and Branding; Transportation; Public Facilities and Community Amenities; Urban Design and Planning; Finance; and Sustainability Initiatives.

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.

Since the adoption of the Plan, as of August 2014, 19 rail-related zoning applications, containing a total of approximately 45 million square feet, were approved; as of that month, almost three million square feet of development were under construction, about half of which are for residential uses and half for office, hotel and/or retail uses.

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 a ½ 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. The Wiehle Reston East Metro station opened in July of 2014; the Reston Town Center, Herndon and Innovation Center stations are expected to be complete by 2018.

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 office uses (new and existing). 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 TSA’s 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, 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 CRD

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.

The Comprehensive Plan for the area was amended in July 2010, to incorporate a form-based approach that provides development flexibility by using building types, building heights and urban design guidance instead of Floor Area Ratios to guide and shape development. The Plan emphasizes innovative urban design, streetscape, placemaking and context-sensitive design principles that will contribute to and establish a cohesive and unique identity.

The Markham Place project is the first project to be proposed under the 2010 Comprehensive
Plan’s Incentive Development Option, which allows for up to 12-stories in height based on the provision of certain public benefits. The three and a half acre site will be transformed from a single-use, surfaced parked 1960s era bowling alley site into a vibrant, pedestrian-oriented mixed-use development with attractively landscaped sidewalks that will add to the area’s walkability and pedestrian focus.

d. Baileys Crossroads/ Seven Corners CRD

The Bailey’s Crossroads/Seven Corners CRD is on the eastern edge of Fairfax County adjacent to Arlington County; this Commercial Revitalization District includes two Community Business Centers – Bailey’s Crossroads and Seven Corners. Each CBC serves as a gateway from neighboring jurisdictions to Fairfax County.

Baileys Crossroads

The Bailey’s Crossroads CBC encompasses approximately 530 acres of land surrounding the interchange of Leesburg Pike and Columbia Pike and is characterized by neighborhood and community-serving shopping centers and a variety of free-standing retail, office and light-industrial uses. Housing types range from single-family detached to high-rise multi-family units. In 2010, the Board of Supervisors approved the Baileys CBC Plan Amendment. This Plan Amendment sets forth a concept for future development that encourages a transition from a predominately retail environment to one that balances retail, office, residential, civic uses and open space. The plan also supports redevelopment of a “Town Center” to take advantage of the proposed transit stops for the Pike Transit streetcar that will run from the Pentagon to Skyline. The recommended transportation improvements are intended to balance land use with infrastructure and to provide intermodal connectivity.

A proposal to redevelop property on Columbia Pike (developed with underutilized industrial and outdated office uses) with new mid-rise residential uses and a new school site is currently under review. This public-private partnership would implement the recommendations of the Plan to add residential uses to the corridor while also addressing a significant public facility need.
Seven Corners

A major replanning effort of the Seven Corners area has been underway since September of 2012, when a series of visioning workshops were held with the community. Subsequently, the Seven Corners Land Use and Transportation Task Force (Task Force) comprised of residents, property and business owners from the area was appointed. The Task Force identified areas that have the greatest potential for redevelopment, as well those sites where change was seen as unlikely or undesirable; developed concepts for how the key areas could redevelop; developed design alternatives to the current Seven Corners interchange; identified other needed connections and enhancements to the roadway network; and developed the design and desired character of major roadways. The recommended Plan amendment is expected to go before the Planning Commission late in 2014 and the Board of Supervisors in early 2015. More detailed design guidelines may be developed following Plan adoption to further guide the implementation of the Plan.

e. Lake Anne Village Center CRA

The 45-acre Lake Anne Village Center Commercial Revitalization Area is focused around the 1965-era Washington Plaza, which was the first area to be developed in Reston, and is 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.

In March 2009, the Fairfax County Board of Supervisors adopted an amendment to the Comprehensive Plan to guide the revitalization of the LAVC. The Plan recommendations provide guidance on the mix of uses and intensities designed to foster redevelopment of the LAVC in a well-designed, integrated, and efficient manner. The Plan text includes urban design
guidelines and guidance on the transportation network, provision of affordable housing, green buildings, and infrastructure that is supportive of the unique character of the historically significant Washington Plaza.

Crescent Apartments Property Redevelopment

In 2006, the 16.5 acre Crescent Apartments property was purchased by the county as part of its effort to preserve affordable housing and to encourage and guide the revitalization of the LAVC CRA. In February 2012, the county released a Request for Proposal for redevelopment of the Crescent Property and encouraged respondents to consolidate and assemble adjacent land units to achieve a plan that aligns with the vision as set forth in the Comprehensive Plan—to: provide for the integrated redevelopment of the area; bring more residents and day-time employees to Lake Anne; promote a vibrant community where people can live, work and play; complement existing Lake Anne buildings and uses; provide high quality site design, building design and materials and open space; include diversity in housing options (market rate, senior, workforce and affordable housing); and enhance pedestrian and bicycle connections.

Following an evaluation process, in 2013, the selected developer and the Fairfax County Board of Supervisors entered into an Interim Development Agreement to create a public/private partnership to redevelop the Crescent Apartments property. Negotiations between the county and the developer for the development of the project are on-going. Following agreement on terms and conditions, the approval of a Master Development Agreement that will address the financial and transactional aspects of the redevelopment project could occur coincident with the approval of the land use entitlements around the end of 2014.

The plan proposes to add up to 1,037 high-rise, mid-rise and townhouse residential units offering a combination of affordable housing, active adult and market rate multi-family and single-family attached housing. The existing 181 multi-family affordable rental units will be replaced by 185 affordable rental units, and 20% of all other units will be affordable. The plan proposes up to 135,000 gross square feet of new non-residential development. Public parks, plazas and pedestrian connections to link the development with the Washington Plaza and the existing Reston trail system are proposed. Other amenities include underground and garage parking, an amphitheater, bike share stations for 70 bikes and an improved plaza to host the existing farmers market and other events.
f. McLean CRD

The 230-acre McLean CRD is located in the northeast portion of Fairfax County, centered at the intersection of Chain Bridge Road, Dolly Madison Boulevard, and Old Dominion Drive. McLean is three miles from Tysons and the Mclean Metro station.

The Comprehensive Plan recommends an overall strategy to stabilize McLean’s community-serving retail and business center, while enhancing them through the creation of a North and South Village. This concept for future development envisions community focal points that will provide a pedestrian-oriented Main Street in the South Village and aesthetically integrated commercial uses in the North Village.

In July 2014, the Board of Supervisors approved the rezoning of a 4.43 acre site located on Elm Street. The Elm Street Residences will transform the property from a single-use, surface-parked, office site to a vibrant, pedestrian-oriented, mixed-use development with a significant Class A residential component, complementary neighborhood-serving retail uses, useable open space and an architectural design that reflects the vision for downtown McLean.

McLean Utilities Project

Focused around the key intersection of Chain Bridge Road and Old Dominion Drive, the McLean Utilities project will remove overhead utility lines along Chain Bridge...
Road to Laughlin Avenue, and extending along Old Dominion Drive to Center Street. The project will tie in with utility undergrounding completed as part of the 2003 Palladium mid-rise condominium project, along Lowell and Emerson Avenues. In 2013, the ductwork and installation of cable were completed, and the utility providers have changed over services to the underground system.

**McLean Streetscape, Chain Bridge Road Enhancement, Signal Replacement and Gateway Signage Projects**

A streetscape project along Chain Bridge Road from Redmond Street to Curran Street is being coordinated with the Chain Bridge Road Corridor Enhancement Project and the McLean Signal Replacement Project. Anticipated to be completed in 2016, the streetscape project will include brick pavers, lights and landscaping, all in accordance with the McLean Design Standards. The Chain Bridge Road enhancement project will redesign the Chain Bridge Road/Old Dominion Drive intersection and construct pedestrian and streetscape improvements. In 2014, new mast arms and signals will be installed at the intersection of Chain Bridge Road/Old Dominion Drive, and a landscaped median along Old Dominion Drive at the entrance to the McLean downtown will be constructed and a McLean gateway sign installed within this medium.

g. **Merrifield CRA**

With the Dunn Loring-Merrifield Metrorail station and regional and local access from I-66, I-495, Route 29, Route 50 and Gallows Road, the 775-acre Merrifield CRA is one of the most centrally located and easily accessible areas in Fairfax County.

In 2001, the Board of Supervisors adopted an amendment to the Comprehensive 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” connects the two core areas.

Merrifield is 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 I and II, Avenir Place, Square 1400 and the Vantage.
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, a movie theatre, a hotel, a variety of retail, a new park and townhomes. The remainder of the project is currently under construction and includes apartments, condominiums and additional retail.

**h. Richmond Highway Corridor CRD**

The Richmond Highway corridor extends 7.5 miles from the Capital Beltway to Fort Belvoir. The Richmond Highway 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. Each commercial area can generally be characterized as predominately local-serving retail, with a mix of stand-alone retail as well as strip commercial centers. The CBCs are envisioned to serve as focal points or nodes for residential and mixed-use development.

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 the proximity to the Huntington Metro station has been concentrated in the northern end of the Richmond Highway corridor and in the Huntington TSA. Projects include the completed Beacon at Groveton, the almost completed Shelby at Penn Daw and the Parker at Huntington. 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.

Transportation Projects

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

- **Route 1 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 the segment of Richmond Highway from Telegraph Road to Mount Vernon Highway from four to six lanes. The approximately 3.4-mile widening will include the provision of a shared-use trail along the northern edge and a pedestrian sidewalk along the southern edge, and will accommodate on-road bicycles. Construction of the project is projected to be completed by June 2016.

- Additionally, as part of its adopted six-year transportation plan, the Board of Supervisors approved $68 million for the widening of Route 1 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** – The Fairfax County Department of Transportation has identified possible sites on Richmond Highway for a transit center that would accommodate bus transfers in a convenient one-stop location.

- **Mulligan Road/Jeff Todd Way Project** – The project includes the construction of a new four-lane divided roadway from Telegraph Road to a realigned intersection with Mount Vernon Memorial Highway (Route 235) at Richmond Highway. This road provides a major east-west connection at the southern end of the Richmond Highway Corridor for vehicles, pedestrians and bicyclists. Both sides of this road will have five-foot sidewalks. The road opened to traffic in August 2014.

- **VDRPT Multimodal Alternatives Transportation Analysis** - The Virginia Department of Rail and Public Transportation is conducting a multimodal study of Richmond Highway to identify the transit mode for the corridor while also addressing vehicular and pedestrian needs. Transit options being considered for further analysis are express bus, bus rapid transit, light rail (streetcar) and a combination of a Metro extension to Hybla Valley with BRT to the south. The study, which began in summer 2013, is being conducted with extensive community involvement; a final report and recommendations is anticipated at the end of 2014.

- **Richmond Highway Public Transportation Initiative** - The Richmond Highway Public Transportation Initiative is a multi-year project that started in 2004 and is part of Fairfax County’s Four-Year Transportation Plan. The goal is to upgrade transit and pedestrian facilities along Richmond Highway, and 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 associated with the project include: pedestrian improvements at 29 intersections such as
cross-walks, pedestrian signals and pedestrian access improvements; completion of missing sections of sidewalks or trails at 24 locations; and various bus stop improvements.

i. Springfield CRD

The 250-acre Springfield CRD consists of a variety of retail, commercial, office and residential activities clustered at the Franconia Road - I-95 Interchange. The rebuilt I-95 Interchange, ramps and Metro access at the Franconia-Springfield Transit Station provide the Springfield CRD tangible market benefits attributed to its prime location and regional transportation advantages.

A new vision for Springfield was contained in the Springfield Connectivity Plan, which was approved by the Board of Supervisors in 2010. The Comprehensive 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 continues 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 and a new commuter parking facility. A number of pedestrian improvements are being made to increase the safety and functionality of roadways in the CRD, including providing a pedestrian refuge area across Commerce Street, correcting safety concerns at two intersections, improving trail connections for bicyclists and replacing non-compliant bus shelters.

Springfield Mall

Redevelopment plans to transform the Springfield Mall into a mixed-use town center were approved by the Board of Supervisors in 2009. The first phase of construction
opened in October 2014 and includes: renovation of the interior retail space; 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 build out of the approximately 80-acre site includes the renovation of the 2.1 million square foot Springfield Mall as well as 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.

3. Region Forward Coalition

In 2011, the Metropolitan Washington Council of Governments’ Board of Directors established the Region Forward Coalition to replace the Metropolitan Development Policy Committee. The coalition is charged with the implementation of the goals, targets and indicators of the Region Forward report. That report sets forth regional goals, a compact agreement and targets and indicators to measure success related to accessibility, sustainability, prosperity and livability. 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 calendar year 2012, the region’s planning directors and the Region Forward Coalition worked to complete the new regional map of activity centers. This was the second major update to the centers map, which was last approved in 2007. The previous map was the technical basis for several targets to support Region Forward – specifically the amount of commercial and residential development foreseen in the centers – and is widely used by the Transportation Planning Board and other key transportation partners in the region such as WMATA. The new Activity Centers map was adopted by the COG Board in January 2013 and identifies a total of 141 centers, including 26 in Fairfax County. COG staff, a consultant team and members of the Region Forward Coalition are also currently completing work on the Activity Centers Strategic Investment Plan which analyzed 95 of the centers to develop place and people typologies and recommendations.


In February 2013, the planning directors and the Cooperative Forecasting Subcommittee completed the compilation of the draft Round 8.2 Cooperative Forecasts of employment, population and household growth to 2040. The draft 8.2 Forecasts will be used by the National Capital Region Transportation Planning Board in this year’s Air Quality Conformity Analysis of the Financially Constrained Long-Range Transportation Plan and Transportation Improvement Program.
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 225,000 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.

F. ACCOMPLISHMENTS

As the chapter author has participated in land use and transportation discussions over the past 10 years, the county has continuously impressed him with consistency, foresight and progress in the face of economic and political challenges. While there is still much to be done, EQAC is pleased to recognize that several recommendations have been completed at the same time that several very long term projects are coming to fruition.

1. Silver Line Service to Reston

This year saw the Silver Line Metro service to Reston realized. This is the momentous conclusion to several years of construction and a welcome addition to the region. Design and construction on the extension from Wiehle Avenue thru Dulles Airport to Loudon County is under way. 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: http://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:

http://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:

A copy of this map is shown as Figure II-8.

Figure II-8. Comprehensive Plan Map
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 June 2014, the county had a total of 35 green building projects, 16 of which attained certification (14 under the LEED program and two under the Green Globes program). The other 19 projects, all of which have a goal of LEED Silver, are in design or are under construction. In addition, the county managed the LEED Gold Virginia Department of Transportation Administration Building. We are also encouraged to see eight 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.

G. COMMENTS AND ONGOING CONCERNS

1. Progress on Major and Mega Projects

The county continues to see progress on mega projects. These include the I-495 Express Lanes and Beltway widening and the Dulles Corridor Rail Project. EQAC has made recommendations in the past expressing concern about the complexity and interaction of these efforts and the impact on localities. To date they have kept on schedule and will provide new options for transportation across the county. We remain concerned that all mitigations promised for these projects be completed to restore the environment to pre-construction conditions and replace the canopy that was removed during construction.

EQAC encourages continued funding for studies on improving transportation and multi-modal options within and between urban centers, especially along the Richmond Highway corridor.

2. Improve Transit Utilization

EQAC encourages the county to continue working to improve transit utilization through a systematic plan that includes multiple options within a community. For example, the
Virginia Railway Express Burke Centre EZ Bus provides a convenient alternative to commuting to the Burke Centre VRE station. This can be combined with pedestrian improvements, more connector bus options and biking trails that together provide a diverse transportation plan.

3. 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.

4. 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.

EQAC also endorses efforts to focus on revitalization through the Office of Community Revitalization (established in 2007) and the Fairfax Forward project that succeeds the APR Retrospective as a new, holistic and integrated approach to plan future development. These changes address the complexities of build-out and redevelopment and bring together the best information and tools to make wiser and more effective decisions.

We are encouraged to see Fairfax Forward as the long term process to update the Comprehensive Plan and completely replace the APR process. We also commend the Fairfax Forward team for providing a wealth of information to the public on the county Web page.
H. RECOMMENDATIONS

1. Continue to Innovate with Social Media

EQAC commends the county for embracing new technology and leveraging the Web to share and interact with public. We recommend that the county continue to integrate social media into the planning process and other outreach efforts. This allows community participation through the Internet technologies and is more cost effective and far reaching than traditional media and outreach. The concept of a virtual town-hall meeting with community participation and instant feedback is now possible. Social media is very powerful for encouraging and educating people about alternative transportation options.

2. Urban Design Standards

Urban standards are designed to improve the environment, quality of life, balance and safety of a well-planned mixed-use place. These new standards 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 allow a wide range of urban design standards, including green spaces, to be adopted and applied to all mixed-use centers.

3. Data and Modeling

EQAC is an advocate of the county GIS and the Integrated Parcel Lifecycle System. These applications have proven their value in understanding the county and providing quantitative information to a variety of users.

   a. EQAC recommends that nonresidential development data be comprehensively integrated into the county’s Integrated Parcel Lifecycle System and used for forecasting, as demonstrated by residential data that have been harnessed in IPLS for that purpose. Currently, nonresidential data on proposed development projects are captured in disparate systems for zoning and site plan applications, but have not been fully brought into IPLS, and, therefore, cannot be used for forecasting.

   b. EQAC continues to recommend that the Comprehensive Plan be reflected and modeled in the GIS. Applications such as the internal Comprehensive Plan Potential and the Comprehensive Plan Amendment applications (used to gather data for the State of the Plan report) are very useful for understanding the real time status of the Comprehensive Plan. These applications should be available to the public on the Comprehensive Plan website.

   c. EQAC recommends that the county acquire new data sources and incorporate them into the business process. Planimetric data have proven to be both cost effective and transformative. Multi-spectral imagery has the potential to enhance our knowledge of the county by answering questions such as tree species identification and tree canopy density.
4. Transportation

EQAC recommends that the county provide priority for non-motorized/multi-modal transportation options. The county has been developing a comprehensive bicycle master plan that is ready for implementation. This complements requirements for pedestrian facilities in mixed-use centers. Proper implementation of the non-motorized/multi-modal master plan needs to include:

- Implementation of the bicycle master plan. Bicycle paths provide healthy and effective options to move about the county and between connected destinations.
- Expanded bicycle parking guidelines modeled on successful programs such as the new secure bicycle parking facilities at Silver Line stations and other county park-and-ride/transit facilities.
- Funding for implementation of both capital and non-capital elements of the county’s bicycle master plan.
- Implementation of an outreach and education program for encouraging/promoting bicycling as a transportation mode. This could be called “Bike Fairfax!”
- Engagement of the private sector. One example of this can be seen in New York City, where CitiBank underwrites 100 percent of the cost of a bikeshare program. This could work today in several suburban and transit centers.

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OTHERS

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