

Planning Commission Recommendation:  
Air Quality/Green Buildings Plan Amendment (S07-CW-3CP)

**RECOMMENDED POLICY PLAN AMENDMENT**

Revise the Environment Section, Land Use Section (Residential Development Criteria) and Glossary of the *Policy Plan* as follows:

**MODIFY:**

Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan, Environment Section, pages 2 through 3, as follows:

Air Quality

Air quality in Fairfax County and in the Washington, D.C. area in general has been improving. However, the region has not yet attained federal air quality standards for ozone and fine particulate matter. In April 2004, the metropolitan Washington, D.C. area was designated by the U.S. Environmental Protection Agency as a moderate non-attainment area for the eight-hour ozone standard, and in December 2004, the region was designated as a non-attainment area for fine particulate pollution. The County has not attained federal air quality standards for ozone.

High ozone concentrations can adversely affect human health. The Washington, D.C. area has not met the ~~Environmental Protection Agency's (EPA)~~ standard for ozone since that standard was established. High ozone concentrations result from the interactions of oxides of nitrogen (NO<sub>x</sub>) and ~~hydrocarbons~~ volatile organic compounds (VOCs) with sunlight (See Figure 1). In the ~~Metropolitan~~ Washington, D.C. area, major sources of NO<sub>x</sub> emissions of oxides of nitrogen include motor vehicles, utilities and other stationary sources, and non-road construction vehicles. utilities, other point sources, motor vehicles and from natural sources. Significant quantities of NO<sub>x</sub> are also transported into the Washington, D.C. area from areas to the south and west. Major sources of emissions of hydrocarbons VOCs include motor vehicles, lawn and garden equipment and small area sources such as (e.g. surface coatings and solvent use) and vehicle refueling.

There are a variety of sources of fine particulate matter in the Washington, D.C. area, including motor vehicles, point sources (primarily power plants), construction sites, commercial/industrial businesses, tilled fields, unpaved roads and the burning of wood. Other fine particulate matter can form in the air from chemical reactions of gases released from motor vehicles and point sources. While no exceedances of fine particulate standards have been recorded in Fairfax County as of 2007, the county is included within the regional nonattainment area. Exposure to high concentrations of particulate matter can adversely affect human health, particularly for sensitive populations.

High carbon monoxide (CO) concentrations are also harmful to human health. While high CO concentrations can potentially occur in "hot spots" near points of traffic congestion, Fairfax County is considered to be in attainment of federal carbon monoxide standards. Other monitored air quality indicators in Fairfax County comply with state and federal standards.

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The development of plans to identify emission control measures that will be necessary to bring the region into compliance with ozone and fine particulate matter standards is being pursued at the regional level by the Metropolitan Washington Air Quality Committee. Ozone control strategies have focused largely on federal and state controls on point source emissions, motor vehicle emissions, evaporative VOC emissions from refueling operations, surface coatings, solvents, industrial/automotive repair activities and open burning restrictions. However, transportation control measures designed to improve traffic flow, reduce vehicle miles traveled and/or reduce vehicle trips have also been incorporated into these strategies. Additional local actions can have air quality benefits but have not, as of 2007, been incorporated into emissions reduction strategies. These actions include: “smart growth planning” that supports transit use and nonmotorized transportation; integrated pest management (which can reduce evaporative VOC emissions); transportation demand management efforts; enhanced bicycle and pedestrian access to transit stations; parking management; the application of “green building” practices; and urban tree canopy expansion efforts. Many of these practices can be applied during the land development process.

Tree preservation and planting efforts can also have air quality benefits. While trees can emit VOCs, they also remove gaseous and particulate air pollutants through absorption and deposition. Trees also reduce ambient air temperatures through evapotranspiration and shading; cooler temperatures lower the potential for ozone formation. Shading by trees can also reduce energy use in buildings and reduce evaporative emissions from parked motor vehicles. Tree preservation and landscaping efforts that stress the planting of trees and low-maintenance vegetation can reduce mowing, thereby reducing emissions associated with maintenance.

**Objective 1: Preserve and improve air quality.**

Policy a. Establish land use patterns and transportation facilities that encourage the use of public transportation and reduce trip lengths to reduce emissions of oxides of nitrogen, carbon monoxide, and hydrocarbons from automobiles. Consistent with other Land Use and Transportation objectives, support and encourage the following during the reviews of development proposals, particularly for proposals in mixed use centers:

- The concentration of growth in mixed-use, transit-oriented centers in a manner that will optimize the use of transit and non-motorized trips and minimize vehicular trips and traffic congestion.
- In mixed-use developments, the provision and orientation of working, shopping, and recreational opportunities in close proximity to residences in a manner that will minimize motor vehicle use.
- The provision of facilities to support transit use (e.g., bus shelters, park-and-ride lots).

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Policy b. Implement transportation strategies that reduce auto travel, minimize dependence on single-occupant automobiles and improve traffic flow, thereby reducing auto emissions. Consistent with other Land Use and Transportation objectives, support and encourage the following during the reviews of development proposals, particularly for proposals in mixed use centers and for development proposals with the potential to cause substantial increases in auto-related air pollutants:

- Incorporation of telework options, flexible work schedules, transit use incentives, ridesharing/carpooling programs, shuttle buses and other transportation demand management measures.
- Provision of infrastructure, facilities and/or programs (e.g., on-site transportation coordinators) to support telework efforts and other transportation demand management measures.
- Development of parking management strategies in transit station areas to encourage transit and high-occupancy vehicle use and minimize single occupant vehicle trips.
- Establishment of and/or participation in transportation management associations.
- The location, design and construction of trails, dedicated bicycle lanes and crosswalks to facilitate nonmotorized transportation among residential uses, transit facilities, commercial areas, public facilities and recreational opportunities.
- The provision of facilities that support nonmotorized transportation, such as bicycle parking facilities and changing/shower facilities in office buildings.

Policy c. Support air quality improvement through tree preservation, tree planting and sensitive landscaping practices. Support and encourage the following during the reviews of development proposals:

- Maximization of tree preservation consistent with planned land use and good silvicultural practices.
- Maximization of tree planting/tree cover restoration consistent with planned land use and good silvicultural practices.
- Pursuit of energy-conscious landscaping efforts such as the planting of trees to provide shading of buildings during the summer months.

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- Preservation and/or planting of trees to shade parking lots, thereby reducing heating of parked vehicles and associated evaporative emissions.
- Planting of street trees within road medians and along thoroughfares where consistent with safety.
- Pursuit of landscaping practices that optimize the planting of native species of trees, shrubs and other vegetation in a manner that minimizes the need for mowing and other maintenance activities, particularly during the hotter months of the year.
- Minimization of applications of pesticides with reactive VOC content through integrated pest management approaches to pest control.

Policy d. Support energy conservation, minimization of indoor air pollution and other green building practices consistent with Objective 13 of this section of the Policy Plan.

Policy e. Support the application of episodic pollution reduction measures that can be applied when air quality conditions are predicted to be poor.

Policy f. Support the use of low-emissions maintenance and landscaping equipment.

Policy eg. Apply state of the art technology toward the minimization~~reduction~~ of emissions from stationary sources of air pollution.

Policy dh. In cooperation with federal, state and regional agencies, bring Fairfax County into compliance with federal primary and secondary national air quality standards as soon as practicable.

~~Development proposals that are projected to cause a substantial increase in auto-related air pollutants should provide a transportation management strategy which minimizes dependence on single occupant automobiles.~~

~~Proposals for significant new stationary sources of air pollutants should implement appropriate control technologies.~~

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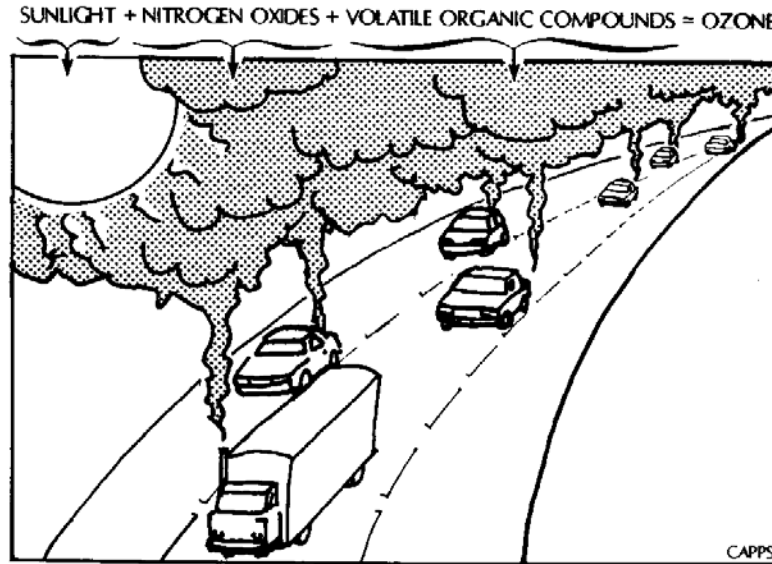


FIGURE 1

**MODIFY:**

Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan, Environment Section, page 15, as follows:

**RESOURCE CONSERVATION AND GREEN BUILDING PRACTICES**

The energy shortage in the United States in the 1970s highlighted the finite nature of our natural resources. Since the 1970s, efforts have been pursued at the federal level to enhance energy efficiency and the efficient use of water resources. While such efforts are best addressed at the federal level, local efforts to conserve these resources should be encouraged.

The “green building” concept provides a holistic approach to the reduction of adverse environmental impacts associated with buildings and their associated facilities and landscapes.

**Objective 13: Maintain and enhance the efficient use of natural resources. Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.**

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Policy a. Consistent with other Policy Plan objectives, encourage the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. These practices can include, but are not limited to:

- Environmentally-sensitive siting and construction of development
- Application of low impact development practices, including minimization of impervious cover (See Policy k under Objective 2 of this section of the *Policy Plan*)
- Optimization of energy performance of structures/energy-efficient design
- Use of renewable energy resources
- Use of energy efficient appliances, heating/cooling systems, lighting and/or other products
- Application of water conservation techniques such as water efficient landscaping and innovative wastewater technologies
- Reuse of existing building materials for redevelopment projects
- Recycling/salvage of non-hazardous construction, demolition, and land clearing debris
- Use of recycled and rapidly renewable building materials
- Use of building materials and products that originate from nearby sources
- Reduction of potential indoor air quality problems through measures such as increased ventilation, indoor air testing and use of low-emitting adhesives, sealants, paints/coatings, carpeting and other building materials.

Encourage commitments to implementation of green building practices through certification under established green building rating systems (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED<sup>®</sup>) program or other comparable programs with third party certification). Encourage commitments to the attainment of the ENERGY STAR<sup>®</sup> rating where applicable and to ENERGY STAR qualification for homes. Encourage the inclusion of professionals with green building accreditation on development teams. Encourage commitments to the provision of information to owners of buildings with green building/energy efficiency measures that identifies both the benefits of these measures and their associated maintenance needs.

~~Policy a.~~ ~~Encourage the application of energy conservation and water conservation measures.~~

Policy b. Ensure that zoning proposals for nonresidential development and zoning proposals for multifamily residential development of four or more stories within the Tysons Corner Urban Center, Suburban Centers, Community Business Centers and Transit Station Areas as identified on the Concept

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Map for Future Development incorporate green building practices sufficient to attain certification through the LEED program or its equivalent, where applicable, where these zoning proposals seek at least one of the following:

- Development in accordance with Comprehensive Plan Options;
- Development involving a change in use from what would be allowed as a permitted use under existing zoning;
- Development at the Overlay Level; or
- Development at the high end of planned density/intensity ranges. For nonresidential development, consider the upper 40% of the range between by-right development potential and the maximum Plan intensity to constitute the high end of the range.

Policy c. Ensure that zoning proposals for residential development will qualify for the ENERGY STAR Qualified Homes designation, where such zoning proposals seek development at the high end of the Plan density range and where broader commitments to green building practices are not being applied.

Policy d. Promote implementation of green building practices by encouraging commitments to monetary contributions in support of the county's environmental initiatives, with such contributions to be refunded upon demonstration of attainment of certification under the applicable LEED rating system or equivalent rating system.

Policy be. Encourage energy conservation through the provision of measures which support nonmotorized transportation, such as the provision of showers and lockers for employees and the provision of bicycle parking facilities for employment, retail and multifamily residential uses.

**MODIFY:**

Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan, Land Use Section, Appendix 9 (Residential Development Criteria), page 26, as follows:

**3. Environment:**

All rezoning applications for residential development should respect the environment. Rezoning proposals for residential development, regardless of the proposed density, should be consistent with the policies and objectives of the environmental element of the Policy Plan, and will also be evaluated on the following principles, where applicable.

- a) *Preservation:* Developments should conserve natural environmental resources by protecting, enhancing, and/or restoring the habitat value and pollution reduction potential of floodplains, stream valleys, EQCs, RPAs, woodlands, wetlands and other environmentally sensitive areas.

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- b) *Slopes and Soils:* The design of developments should take existing topographic conditions and soil characteristics into consideration.
- c) *Water Quality:* Developments should minimize off-site impacts on water quality by commitments to state of the art best management practices for stormwater management and better site design and low impact development (LID) techniques.
- d) *Drainage:* The volume and velocity of stormwater runoff from new development should be managed in order to avoid impacts on downstream properties. Where drainage is a particular concern, the applicant should demonstrate that off-site drainage impacts will be mitigated and that stormwater management facilities are designed and sized appropriately. Adequate drainage outfall should be verified, and the location of drainage outfall (onsite or offsite) should be shown on development plans.
- e) *Noise:* Developments should protect future and current residents and others from the adverse impacts of transportation generated noise.
- f) *Lighting:* Developments should commit to exterior lighting fixtures that minimize neighborhood glare and impacts to the night sky.
- g) *Energy:* Developments should use site design techniques such as solar orientation and landscaping to achieve energy savings, and should be designed to encourage and facilitate walking and bicycling. Energy efficiency measures should be incorporated into building design and construction.

**MODIFY:**

Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan, Land Use Section, Appendix 9 (Residential Development Criteria), page 26, as follows:

**4. Tree Preservation and Tree Cover Requirements:**

All rezoning applications for residential development, regardless of the proposed density, should be designed to take advantage of the existing quality tree cover. If quality tree cover exists on site as determined by the County, it is highly desirable that developments meet most or all of their tree cover requirement by preserving and, where feasible and appropriate, transplanting existing trees. Tree cover in excess of ordinance requirements is highly desirable. Proposed utilities, including stormwater management and outfall facilities and sanitary sewer lines, should be located to avoid conflicts with tree preservation and planting areas. Air quality-sensitive tree preservation and planting efforts (see Objective 1, Policy c in the Environment section of this document) are also encouraged.

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**MODIFY:** Fairfax County Comprehensive Plan, 2007 Edition, Policy Plan and Area Plans, Glossary, as follows:

**GREEN BUILDING:** Structures and their associated landscapes that are located, designed, constructed, operated and dismantled in an environmentally responsible manner to minimize short- and long-term negative impacts on the environment and building occupants.

**ENERGY CONSERVATION:** The practice of reducing energy consumption.

**ENERGY EFFICIENCY:** The incorporation of design and/or technological measures that serve to reduce energy use while attaining a similar level of service.