



2013 Master Plan

Chapter 9. Sustainability

A. Goal

Maintain and develop a more sustainable, walkable and competitive Upper Arlington in the future through innovation, efficiency, wellness and environmental stewardship. A sustainable community is designed with the consideration of environmental, social and economic effects in mind, where the community is dedicated to reducing its consumption of energy, water and food, and minimizing the creation of waste, pollution and emissions.

B. Overview

This chapter of the Master Plan addresses the role of the City in creating a more sustainable and environmentally friendly community. It provides general guidance for reducing energy use, water use, food, waste, pollution and emissions.

Beginning in 2007, the City signed the Central Ohio Green Pact, spearheaded by the Mid-Ohio Regional Planning Commission. The regional sustainability approach has goals of enhancing and protecting the quality of life and economic vitality of the region. Nearly every jurisdiction in Central Ohio has pledged common sense steps to greener growth management and living within the region. Since this signing, Upper Arlington has been one of the leaders for sustainability through the City's land use policies, energy efficiency measures, consumption reductions and education efforts. This chapter recommends reducing overall consumption and encouraging efficiency, promoting climate protection and improving air quality, preserving material and natural resources and coordinating public health and wellness. It also seeks to actively promote public involvement and personal responsibility.

Upper Arlington recognizes the importance of sustainable urban design, especially for built-out, inner-ring communities. The City does not have the available vacant land to acquire and develop; therefore, all development is the redevelopment of existing properties. Due to this fact, it is important that desirable outcomes are achieved for each redevelopment opportunity. Following the standards set in place by the Unified Development Ordinance is the ideal way to achieve projects

that are environmentally friendly and pedestrian-oriented. New commercial developments are set closer to the street, with parking lots located behind buildings, and have landscaping plans that provide solid screening and buffering to create street tree canopy, reduce heat island effects and minimize impacts on adjacent properties. Outdoor lighting standards follow the Dark Skies model, where light pollution is greatly reduced in order to preserve the night sky. As important as the redevelopment of existing property is the protection of existing neighborhoods. The heart of Upper Arlington is its excellent homes and neighborhoods and mature trees with walkable destinations in nearly every section of town. It is critical that home improvements continue to meet the needs of its owners, but also be compatible with the neighborhood so as to not negatively impact surrounding properties and streetscapes. As new proven methods, technologies and products arise, Upper Arlington will continue to practice and promote active sustainable urban design within its borders.

C. Key Findings

Outlined below are key findings related to the City's sustainability efforts to date:

- **Sustainable Land Use:** The City's Unified Development Ordinance (UDO) was enacted in 2002 and mandates compact, mixed-use development in order to create walkable and pedestrian-oriented places, while also protecting existing neighborhoods. Just by following the Unified Development Ordinance, new commercial developments are eligible for advanced environmental design certification.
- **Dark Skies:** The City's outdoor lighting standards require full cutoff fixtures to eliminate glare and directional shields to limit stray light, meeting national requirements for "dark skies." Internally illuminated signs require an opaque background to further limit outdoor illumination and preserve the night sky.
- **Energy Efficiency:** All traffic signals, pedestrian crossing signals, school flashers and warning flashers have been converted from traditional incandescent light bulbs to LED, which use 90 percent less electricity and last up to 40 times longer. The City is also testing induction and light-emitting diode retrofits for streetlights in the Historic District south of Lane Avenue, as well as solar-powered crosswalk warning signals.
- **Recycling:** For a number of years, Upper Arlington has maintained one of the highest recycling rates in the state. At recent count, approximately 47 percent of total collected solid waste is recycled. This is due, in part, to the City's pay-as-you-throw system.
- **Greenroads[®]:** The City partnered with the University of Washington and consulting firm CH2M Hill to pilot a Greenroads[®] certification program, which is intended to reduce road construction cost, increase lifespan and use more recycled materials from the previous roadway. Where appropriate, roads reconstructed since 2010 have been built using these standards.

- **Stormwater Management:** Upper Arlington was the first Central Ohio community to permit rain barrels, rain gardens and other alternative methods of stormwater management. Sunny 95 Park contains the largest installation of rain gardens in Central Ohio (25,000+ square feet) and both Kingsdale Shopping Center and Fancyburg Park contain well-designed rain gardens. Many residents have used these stormwater management methods when undertaking home improvement projects.

D. Objectives and Strategies

Objective 1. Promote the efficient use of existing energy resources and explore the use of sustainable alternatives.

With growing demands for energy and a limited supply of available natural resources, it is important for the Upper Arlington community to do its part to reduce energy demand and improve efficiency. By using resources more efficiently, less money is spent on energy, less pollution is emitted into the atmosphere and existing resources can be preserved for future generations. New technologies and other clean energy resources will play an integral role in a balanced energy approach, and Upper Arlington should be involved in the integration.

Strategies

a. Encourage the reduction of electricity and natural gas demand.

The City will find ways to reduce energy demands through the use of lighting dimmers and timers, occupancy sensors and other products that turn off facilities and devices not in use. The City will also encourage homes, businesses and other institutions to reduce their own demands through similar efforts.

Implementation: **Community & Economic Development Department, Public Services Department, City Manager**

Timeframe: Ongoing

b. Encourage energy efficiency.

The efficient use of energy is the simplest and most effective way to preserve resources and cut costs; through the use of energy efficient products (high-efficiency mechanical systems, lighting, energy-efficient appliances and devices, etc.), home weatherization, energy audits and other measures, Upper Arlington can significantly reduce the amount and cost of energy used. The City will continue to encourage any and all energy efficiency improvements to its facilities and devices, as well as those of residents, businesses and other institutions.

Implementation: **City Manager, Community & Economic Development Department**

Timeframe: Ongoing

c. Encourage and promote new, clean technologies in the community.

New, clean and proven technologies that work to reduce energy use shall be highly encouraged in Upper Arlington. These technologies increase efficiency while decreasing costs. Incentives such as special improvement districts and power purchase agreements are two proven ways to encourage and facilitate clean technology.

Implementation: **City Manager**, Community & Economic Development Department, City Council

Timeframe: Ongoing

d. Improve the availability of, encourage, and possibly incentivize, the use of locally-produced renewable energy.

Locally produced renewable energy, such as solar photovoltaic, solar thermal and geothermal will play an important role in diversifying our energy sources in the future. The City should not stand in the way of residents, businesses or institutions that pursue locally produced renewable energy, as long as its effects in the neighborhood are mitigated. The City should consider generating energy from renewable sources (solar, wind, geothermal, etc.) for City facilities.

Implementation: **Community & Economic Development Department**, Board of Zoning & Planning, City Council

Timeframe: Ongoing

Objective 2. Support programs and activities to enhance air quality and facilitate climate protection.

Upper Arlington has been a Tree City USA since 1990 and is extremely proud of its urban forest and other natural assets. The City's outstanding urban tree canopy pre-dates its founding nearly 100 years ago and is a hallmark of the community.

Unfortunately, high levels of regional air pollution create unhealthy air for children, seniors and those with asthma or other respiratory problems. It is important for Upper Arlington (and our neighboring communities) to understand its place in the region and strive for cleaner air, especially for our younger and older generations.

Strategies

a. Maintain and expand the City's urban tree canopy.

The urban tree canopy performs important stormwater management interception, provides shade for open spaces, buildings and parking lots, reduces air pollution, provides wildlife habitats and reduces energy costs. A healthy urban tree canopy increases property values and provides overall aesthetic

and community benefits. The City will continue to plant and maintain street trees and enforce zoning ordinances as they relate to landscaping, buffering and screening. The City should continue to implement its tree preservation ordinance to protect mature trees from destruction and continue its cost-share street tree program.

Implementation: **Parks & Recreation Department**, Community & Economic Development Department, City Tree Commission

Timeframe: Ongoing

b. Encourage the use of native trees and flowers.

In order to preserve the diversity of tree and landscape stock, the use of native trees and flowers will be strongly encouraged. Native species are well adapted to the Central Ohio climate and can do a better job reducing air pollution, improving air quality and enriching the soil. The City's Parks & Forestry Division has a brochure of recommended trees for the community that should be updated as needed.

In addition to encouraging the use of native trees and flowers, the City will work to diminish invasive species. Invasive species can affect the chemical makeup of the water, availability of resources and even alter the food web. Invasive species affect other species more directly through competition for resources. They are costly to society in many ways through both direct management and decreased production. By planting natives, everyone can provide a welcoming environment for local wildlife. This doesn't need to entail a drastic overhaul of residents' yards or gardens. The process can be gradual and can reflect both personal preferences and local sensitivities.

Implementation: **Parks & Recreation Department**, Community & Economic Development Department, Board of Zoning & Planning

Timeframe: Ongoing

c. Implement a Climate Adaptation Plan.

The City should consider implementing a Climate Adaptation Plan to address potential effects of climate change (changing weather patterns and more frequent extreme weather events) and how it may affect Upper Arlington. This Plan should ensure that existing Emergency Response Plans are updated to reflect any emerging implications such changes may create. This plan should also be compatible with other City Emergency Response plans.

Implementation: **City Manager**, Police Division, Fire Division

Timeframe: Long Term

d. Update the City's Carbon Footprint Assessment as a result of recent improvements.

The City last completed a Carbon Footprint Assessment in 2007, which should be updated within two years of major improvements to City facilities. Repeat assessments will verify the proposed payback times of investments and ensure that the City's return on investment is positive. Based on the results, a Carbon Action Plan should be devised for other future improvements.

Implementation: **City Manager**

Timeframe: Mid Term

e. Continue to monitor air quality standards.

The City will continue to monitor air quality forecasts and inform its employees, residents and businesses of projected unhealthy air pollution alerts and provide recommendations regarding when to be cautious and avoid unnecessary outdoor activities.

Implementation: **City Manager**

Timeframe: Ongoing

f. Reduce emissions and other pollution from City vehicles and facilities.

The City will consider a Green Fleet Action Plan, which includes implementation of anti-idling policies, vehicle maintenance procedures and filter retrofits to reduce pollution, particularly black carbon. Replacing or converting oil-powered equipment and vehicles with electric or battery options should also be encouraged, as is the use of alternative fuels, biofuels or other proven clean fuel technology.

Implementation: **City Council, City Manager, Public Services Department**

Timeframe: Mid Term

g. Encourage City employees to drive less, carpool and engage in clean air practices.

The City will examine ways to encourage employees to drive less, carpool to work and to consider biking or walking when possible.

Implementation: **City Manager**

Timeframe: Long Term

h. Establish ride-sharing resources.

Ride-sharing is a growing way to reduce the number of vehicles on the road. These resources allow interested parties to see available groups, routes and times for carpooling and vanpooling. The City will examine partnerships to establish such services for residents, employees and businesses within the community.

Implementation: **City Manager**, Finance & Administrative Services Department

Timeframe: Long Term

Objective 3. Expand materials management practices to reduce consumption and increase recycling and reuse programs.

Reducing the amount of waste going to our regional landfill is of vital economic interest to every resident, business and community in Central Ohio. Prolonging the life of our landfill is an important topic that we all must consider, in hopes of not having to construct a new one in the future. Reusing and recycling products, composting and attaining zero waste are all initiatives that will be actively pursued.

Strategies

a. Reduce the overall consumption of products.

Efforts to reduce the overall consumption of products will not only save precious natural resources, but will also save money. The City will strive for electronic applications, bills and statements, paperless meetings, zero waste events and functions, and will re-evaluate its supply chain. The City should also perform waste audits every three years to ensure its disposal of refuse and recycling is as efficient as possible.

Implementation: **City Manager**, City Council

Timeframe: Ongoing

b. Encourage the reuse of material.

Any material or product that can be re-used should be. The City will continue to encourage the re-use of construction and demolition debris and will encourage food composting per nationally recognized food scrap recovery programs. The City will continue to auction or donate unused supplies and equipment once those objects have completed their City purpose.

Implementation: **City Manager**, Public Services Department, Finance & Administrative Services Department

Timeframe: Ongoing

c. Maintain a high rate of recycling.

The City will strive to maintain its high rate of recycling. At last count, approximately 47 percent of waste is recycled. The City will also partner with area businesses to provide electronic recycling and paper shredding events for residents and businesses.

Implementation: **City Council**, Public Services Department, City Manager

Timeframe: Ongoing

d. Reduce the use of toxic materials and purchase environmentally friendly products when available.

The City will evaluate its use of toxic materials and search for proven organic or natural solutions instead, especially for lawn care and cleaning supplies. The City will examine implementing a mandate that calls for environmentally friendly, recycled or compostable disposable products to be purchased when available at favorable cost.

Implementation: **Public Services Department**, Finance & Administrative Services Department

Timeframe: Ongoing

e. New and remodeled buildings should contain environmentally friendly attributes.

When residential and commercial buildings are constructed or remodeled, they should contain environmentally friendly attributes. This includes the use of environmentally friendly and green products (lighting, flooring, insulation, etc.), high efficiency mechanical devices (air conditioner, hot water heater, generator, etc.) and appliances and sustainable and recycled materials.

Implementation: **Community & Economic Development Department**, Board of Zoning & Planning

Timeframe: Ongoing

f. Continue environmentally friendly street projects.

During road construction projects, the City should continue to build at an environmentally friendly design. This certification saves money and time and increases the longevity of the re-constructed roadway.

Implementation: **Public Services Department**

Timeframe: Ongoing

Objective 4. Promote and encourage public involvement opportunities in sustainable practices.

In order for sustainable initiatives to fully take root, they must be embraced by those located within the community. The City will continue to foster its relationship with residents, businesses, schools and other institutions by working together to promote environmental stewardship in Upper Arlington.

Strategies

a. Encourage more public involvement.

The City needs to encourage more community involvement on sustainability and green initiatives through the use of open meetings and conversations, social media, engagement events, programming and other means necessary.

Implementation: **City Manager**, City Council

Timeframe: Ongoing

b. Promote and support regional collaboration.

The City will continue to promote and support regional collaboration on sustainability initiatives with surrounding communities, the Mid-Ohio Regional Planning Commission (MORPC), The Ohio State University, business groups, not-for-profit organizations and other community partners.

Implementation: **City Manager**, City Council

Timeframe: Ongoing

c. Promote an ethic of conservation and stewardship in City government.

City officials should consider the consequences of environmental damage during all aspects of City business. Officials should recognize conservation efforts in issues pertaining to land redevelopment, environmental education and everyday functions.

Implementation: **City Council**, City Manager

Timeframe: Ongoing

d. Seek out and embrace new sustainability practices.

Upper Arlington will continue to seek ways and means to become more sustainable in all aspects of City government. The community should maintain its identity as a premier place to live, work and raise a family in Central Ohio, and sustainability plays a major role in this. Demonstration projects that test environmentally friendly technologies or processes should be encouraged. These efforts should be led by the UA Green Team, which formed in 2008 to reduce the City's ecological footprint.

Implementation: **City Council**, City Manager

Timeframe: Ongoing

e. Launch community programs to foster sustainable practices.

The City will explore ideas to foster more sustainable and energy-efficient homes, neighborhoods and business districts with the goal of producing a fully sustainable community. The City will also

continue to educate its residents on sustainable practices, provide opportunities for public participation and offer products to reduce one's footprint.

Implementation: **Community & Economic Development Department**, Parks & Recreation Department, City Manager

Timeframe: Ongoing

f. Support sustainability groups and citizen efforts.

The City will continue to partner with and support local community groups and other citizen efforts that further sustainability initiatives at all levels.

Implementation: **City Manager**, City Council

Timeframe: Ongoing

g. Continue to implement sustainability initiatives in City code.

The City will continue efforts to implement sustainability initiatives in City code. This includes the Unified Development Ordinance (UDO), Building Code, Streets and Services Code, among many others. These codes should also be updated as new technologies and processes arise and as new mandates are required.

Implementation: **Community & Economic Development Department**, Board of Zoning & Planning, City Council

Timeframe: Ongoing

Objective 5. Support public health and wellness.

According to the Columbus Public Health, nearly 61 percent of Franklin County residents were obese or overweight in 2008. To combat this figure, better physical and wellness activities are needed, as well as more healthful, wholesome foods in our diets. The following strategies provide opportunities to improve the health, wellness and overall wellbeing of Upper Arlington.

Strategies

a. Improve access to and support plans which promote local foods.

Upper Arlington will continue to support locally produced food that is easily accessible to people of all income levels at local markets, grocery stores, restaurants, schools and other institutions. The City will continue to offer its weekly farmers markets and should seek ways for its improvement and/or expansion. The City or institutional landowners should consider renting out community garden plots for residents to grow their own produce and the City should also promote backyard gardening efforts.

Implementation: **City Manager**, Parks & Recreation Department

Timeframe: Ongoing

b. Support plans which promote physical health and wellness activities.

Upper Arlington will continue to promote physical activity and seek opportunities for additional improvements to our Parks & Recreation programs and facilities. The City will also work to increase access to wellness activities, either through media campaigns, additional LifeLong Learning classes or other vehicles.

Implementation: **Parks & Recreation Department**, Finance & Administrative Services Department, City Manager

Timeframe: Ongoing

c. Enhance connectivity with more bike paths, bike lanes and sidewalks.

Upper Arlington lacks a comprehensive bike path system, but does have some bike lanes and a bicycle boulevard that was installed on Arlington Avenue in 2011. When possible and feasible, the City should strongly consider the installation of bike paths and bike lanes, with the goal of developing an integrated and safe bicycle route system, which would eventually connect to neighboring bike paths, communities, The Ohio State University and downtown Columbus. The City should also continue to consider and pursue, when appropriate and when funding is available, the installation of sidewalks on reconstructed (arterial and connector) streets, and in petitioned neighborhoods.

Implementation: **City Council**, City Manager

Timeframe: Ongoing

d. Actively support safe bicycle transportation.

The City will work with the cycling community to provide safe accommodation and travel, and encourage residents and workers to use bikes for transportation and recreation.

Implementation: **Public Services Department**, Parks & Recreation Department, City Manager

Timeframe: Ongoing

Objective 6. Preserve water resources and encourage flood protection practices.

Upper Arlington obtains its water through the City of Columbus from both Griggs and O'Shaughnessy reservoirs located on the Scioto River. With the region's growing population, the community must do its part in protecting and preserving these important resources. Backyard

conservation efforts, increased water efficiency, public education and conservation are all ways to improve watershed health, reduce cost and protect water resources for future generations.

Strategies

a. Preserve water resources through usage reductions and encourage water efficiency.

Being efficient with our water is a critical part of maintaining and protecting our current supply. Preventing and repairing leaks in water piping and fixtures is an important step to reduce overall water usage, as proper and regular maintenance is needed. The use of water-saving technology (high-efficiency appliances and low-flow fixtures), insulating hot water pipes, recycling greywater, installing water meters and other water-saving devices are strongly encouraged. Irrigation systems should be designed and operated efficiently. The City will encourage homes, businesses and institutions to examine how they use water each day and promote sensible ways to use less.

Implementation: **Community & Economic Development Department**, Public Services Department, City Manager

Timeframe: Ongoing

b. Protect and restore the City's urban creeks and floodplains.

The City's urban creeks need to be properly maintained and protected so that adequate buffers are in place to hold water in the ground and stream channel, to slow stormwater runoff and to prevent soil erosion. Floodplain and wetland areas should also be protected, especially those within the Special Flood Hazard Area, to minimize future flood hazards.

Implementation: **Public Services Department**, Parks & Recreation Department

Timeframe: Ongoing

c. Encourage the capture of rainwater with rain barrels and cisterns.

Instead of turning on the hose, collecting rainwater is an easy and excellent way to save water for watering plants, flowers and gardens. The use of rain barrels and cisterns is recommended.

Implementation: **Community & Economic Development Department**, Public Services Department

Timeframe: Ongoing

d. Encourage the use of rain gardens and bioswales.

The installation of rain gardens and/or bioswales to a property adds visual interest and beauty, and reduces the amount of stormwater pollution entering nearby waterways. These landscape features help slow and filter stormwater entering our streams, rivers and groundwater, while also recharging groundwater supplies. Upper Arlington has more rain gardens and some of the largest rain garden installations in the region, and the expansion of these efforts is encouraged.

Implementation: **Community & Economic Development Department**, Public Services Department, Parks & Recreation Department

Timeframe: Ongoing

e. Promote backyard conservation efforts.

The prevention of pollutants entering nearby rivers and streams is critical for our community and wildlife habitats. Disposing of household hazardous waste properly, reporting suspected problems to the Police or Ohio EPA, maintaining motor vehicles and impervious surfaces, minimizing fertilizer use and chemical applications, reducing stormwater runoff and properly maintaining yards are all adequate ways to protect our water resources. Local watershed and conservation groups already do an outstanding job promoting these efforts and this should continue into the future.

Implementation: **Community & Economic Development Department**, Public Services Department, Parks & Recreation Department

Timeframe: Ongoing

f. Promote permeable pavement products.

Permeable paving products, such as open-jointed blocks, grass pavers, pervious concrete and porous asphalt, are unique and effective ways to recharge groundwater supplies, reduce stormwater runoff and eliminate the need for costly stormwater management systems. These products are highly recommended in Upper Arlington, especially for parking areas, driveways and patios.

Implementation: **Community & Economic Development Department**, Public Services Department

Timeframe: Ongoing

g. Minimize impervious surfaces.

The Unified Development Ordinance caps allowable impervious surfaces on properties in order to preserve aesthetics, increase greenspace, protect water quality and reduce stormwater runoff. In addition, the City's parks and other open spaces should be preserved and protected so they can continue to provide valuable environmental benefits.

Implementation: **Community & Economic Development Department**, Public Services Department, Parks & Recreation Department

Timeframe: Ongoing

FOOTNOTE: Departments/agencies marked in **bold** within the strategies are designated as lead implementation departments/agencies.