

City of Kirkland Planning and Community Development

March 2014

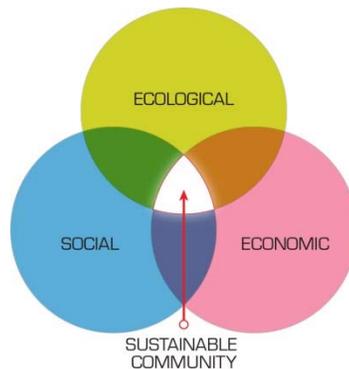
Kirkland is in the process of updating its Comprehensive Plan to reflect how the City should grow and change to accommodate growth over the next 20 years. This paper looks at what it takes to become a sustainable community, why it is important and the steps the City has taken so far towards meeting the goals of sustainability.

## Principles & Goals of a Sustainable Community

### *What is Sustainability? What is Resilience?*

**Sustainability** means meeting our present needs while ensuring future generations have the ability to meet theirs. To become a more sustainable city, we need to consider the long term and wide ranging impacts of our actions and to evolve, strengthen and expand our policies and programs to adapt to new situations. The three areas of sustainability are:

- **Ecological Sustainability:** Ensure that natural systems and built structures protect habitats, create a healthy environment, and promote energy efficiency.
- **Economic Sustainability:** Ensure a strong economy that is able to support our community while not compromising the environment in which we live.
- **Social Sustainability:** Ensure that we provide a sense of community to our residents, and support basic health and human service needs.



**Resilience** takes sustainability to the next step in which a community can adapt to the ever changing environment in a socially responsible manner. At its most basic level, a resilient community ensures that its residents and workforce can provide food and water during extreme weather events or disasters. In the built environment, it means encouraging buildings that have a low carbon foot print and thus do not impact the environment, such as the recently completed [Bullitt Center](#) building in Seattle.

### **A. Ecological Sustainability**

Ensure that natural systems and built structures protect habitats, create a healthy environment, and promote energy efficiency.



## Target areas for Ecological Sustainability include:

- Water Quality
- Air Quality & Ecologically Healthy Practices
- Fish and wildlife habitat and the protection and enhancement of natural systems
- Greenhouse Gas Emission Reduction and Climate Change
- Green Building & Energy Consumption/Conservation
- Solid Waste and Recycling
- Multi-Modal Transportation
- Parks, Land Use & Open Space
- Food Availability and Resilience

## Goals for Ecological Sustainability

- Improve air and water quality.
- Reduce greenhouse gas emissions that cause climate change.
- Maximize energy efficiency and cost savings.
- Decrease consumption of potable water, especially during summer months.
- Increase on-site stormwater management.
- Reduce waste during construction and operation of buildings.
- Minimize maintenance of buildings and improvements through construction design.
- Improve indoor environmental quality and occupant health.
- Support citizens in growing their own food and support local food production, for example through farmers and neighborhood markets.

## Water Quality and Conservation

The City of Kirkland strives for good water quality, not only in the water we drink but also in the surface waters of our local watersheds.

### Watershed Protection

The [Puget Sound Partnership](#) is a state agency created to coordinate the recovery of Puget Sound, including salmon recovery. The [Salmon Recovery Plan](#) has strategies and actions for watershed protection associated with marine and freshwater habitat protection. Kirkland is located in the Lake Washington/Cedar/Sammamish watershed.

At the local level, improving our local watershed is a major objective of Kirkland Public Works' Surface Water Division. To help with watershed management, Kirkland's Surface Water Utility was formed in 1998. In addition to operating and maintaining the City's storm drainage infrastructure, the Utility works to improve water quality and aquatic habitat by reducing pollutants to its streams, lakes, and wetlands in the following ways:

- Implementing land use regulations that protect and enhance the City's critical areas, including programs to prevent water pollution caused by daily residential and commercial activities.
- Enforcing erosion control and pollution prevention during construction activities.



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- Administering public education and outreach programs on a variety of topics, including pet waste management, gardening and car washing, to prevent water pollution and encourage stewardship of local watersheds.
- Promoting community awareness of water quality and resource issues.

### **Safe Drinking Water**

The City of Kirkland is a member of the Cascade Water Alliance (Cascade) along with other eastside cities. Cascade provides its members with safe, clean and reliable water in a cost effective and environmentally responsible manner. The water mainly comes from the Tolt River Watershed but sometimes from the Cedar River Watershed during summers of high water demands and low precipitation. Both watersheds are located in remote, uninhabited areas of the Cascade Mountains.

As a member of Cascade, Kirkland purchases its water from Seattle Public Utilities (SPU). SPU performs most of the sampling and treatment of Kirkland's drinking water and protects the quality of our water with an aggressive watershed protection plan.

The water is distributed to Kirkland residents through Kirkland's water distribution system. The Kirkland Water Division operates and maintains the system's water distribution lines, pump stations and storage reservoirs. The City is constantly reviewing system hydraulics and statistics to determine long-term budgeting for replacement of old piping and to increase water capacity throughout the system. In compliance with the federal Safe Drinking Water Act and Washington State Department of Health requirements, the City publishes an annual [Water Quality](#) report on our drinking water.

### **Water Conservation**

Water efficiency helps ensure a safe, reliable supply of drinking water to support our lifestyle and economy. Water conservation is a critical part of Cascade's water management strategy. The Cascade programs include public outreach, gardening classes, classroom education, rebates toward the purchase of water conserving devices and hardware (urinals, ice machines, irrigation systems), and distribution of showerhead and faucet aerators as well as toilet leak detection tablets.

Conserving water can also be achieved by allowing citizens to keep water on site through the use of rain barrels and other water retention systems. This can help to alleviate the demand on the watershed and make citizens more resilient in times of power outages and water shortages. It can also reduce water usage for individual urban food gardens. For information regarding conservation, visit [cascadewater.org](http://cascadewater.org).

## **Air Quality & Ecologically Healthy Practices**

Sound sustainability practices will benefit the earth and human health. Indoor and outdoor air quality directly affects human health as well as our natural environment. By looking at each type of pollution we are able to determine at what level it starts to negatively impact our air quality. As we do more outdoor activities whether it is for physical exercise or just leisure, outdoor air quality



is a rising issue. With the average person spending about 90% of their time indoors it is easy to see how indoor air quality is important. To improve indoor air quality, we must go back to our building green principles to look at where we can integrate better HVAC practices into our buildings.

## Greenhouse Gas Emission Reduction and Climate Change



The world's leading atmospheric scientists predict that climate change will have serious environmental, economic, and public health consequences in the coming decades. The 2013 Intergovernmental Panel on Climate Change reported that it is now clear that humans are influencing climate change. At the national level, emission and fuel efficiency standards have been set for new vehicles as well as emission standards for industries under the Clean Air Act. At the state level, a greenhouse gas emission reduction limit [plan](#) has been established and the [Climate Workgroup](#) has been charged with recommending a state program of actions and policies to reduce greenhouse gas emissions to meet the state's emission reduction limits.

While the City recognizes that its actions as a governmental entity alone are not likely to have a major impact on global greenhouse gas emissions trends, local actions can inspire regional and even national action. The City is also hopeful that its efforts to monitor and reduce emissions in our own governmental operations will serve as an example to engage the involvement of the greater Kirkland community.

Recent City efforts include:

- 2003 [Natural Resource Management Plan](#) provides direction for future actions that will improve natural resources management in Kirkland with guiding principles and implementing strategies that address land and vegetation, drainage basins and potable water, fish and wildlife, sustainability and human activities.
- In 2007, the City adopted **greenhouse gas reduction targets**. For both the community and government operations, the reduction targets are:
  - Primary: 20% below 2005 levels by 2020
  - Interim: 10% below 2005 levels by 2012
  - Long-term: 80% below 2005 levels by 2050
- 2009 [Climate Protection Action Plan](#) presents the City's framework for confronting climate change and engaging the community. We strive to meet our greenhouse gas reduction targets by:



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- Encouraging citizens to grow food, and providing venues and other means for trade and sale of that food.
- Engaging the community to help achieve our greenhouse gas reduction goals.
- Investing in energy efficiency and renewable sources of power.
- Improving energy and fuel efficiency in governmental facilities and operations.
- Changing land use regulations that reduce energy consumptions and setting green building guidelines/standards.
- Maintaining our residential recycling rate while improving multifamily and commercial recycling rates

Kirkland has identified approaches to reducing emissions in government operations in the areas of energy efficiency, local food production, commuting/transportation/fuel efficiency, and waste reduction and recycling. The City maintains healthy [urban forests](#) by requiring tree preservation and plantings to increase shading and absorption of carbon dioxide, and to reduce stormwater runoff. Lastly, the City helps to educate the public, schools, professional associations, business and industry about reducing global warming pollution. Continuing to advance the City’s Climate Protection Action Plan will strive to achieve for a sustainable and resilient community and to work to reduce our contribution to climate change.

## Green Building & Energy Consumption/Conservation

Building green is a very important step to becoming more sustainable, and with that we are able to take positive steps to increase use of renewable energy. According to the [U.S. Environmental Protection Agency](#), in the United States as of December 2012, buildings account for 39 percent of total energy use, 12 percent of the total water consumption, 68 percent of total electricity consumption, and 38 percent of the carbon dioxide emissions. Green building addresses the resource consumption and environmental impacts of the built environment through design, construction, and operation practices.

The City encourages private buildings *to meet a minimum standard of Gold* from a green building organization such as [LEED](#). Several years ago, the City developed its [Green Building Program](#) to provide [technical assistance](#) in learning to build green buildings and offering priority permitting for green buildings. The City also offers incentives, including density increases, for [Low Impact Development](#) (LID) in its zoning regulations. LID is a set of techniques that mimic natural watershed hydrology by slowing, evaporating/transpiring, and filtering water before it reaches a stream channel or lake to conserve and protect natural resources and reduce infrastructure costs.

An example of the City’s own efforts in making public buildings greener is the renovation of a 1923 historical structure as its [City Hall Annex](#) offices in 2008-2009 that was awarded a LEED rating of Gold. [Private construction](#) examples of green buildings in Kirkland include the YS Development’s single family home and The Cottage Company’s Danielson Grove Cottage Community.

The City has also worked with Puget Sound Energy to enroll customers in a program to match a percentage of their electricity needs with renewable energy. PSE purchases that energy from local producers of wind, sun, and biomass power.



## Solid Waste and Recycling

Sustainable cities should explore and support innovation in infrastructure and public policy to encourage product stewardship initiatives; the reuse of recoverable resources; waste reduction; and the recycling of materials to reduce impacts upon the environment.

Since 2007, Kirkland's recycling diversion rate for single family has averaged over 68 percent – perennially the highest or one of the highest diversion rates among 37 cities in King County. The high diversion rate has been sustained through innovative and foundational solid waste rates policies such as embedded recycling and organics collection service and variable, linear rates. Ongoing single family, multifamily, and commercial programs to augment rates policies and support waste reduction and recycling include:

- Semiannual residential and annual business recycling collection events
- Free food recycling program for businesses and multifamily properties
- Alkaline and rechargeable battery recycling
- Curbside collection of compact fluorescent bulbs, motor oil, and textiles
- Smoke alarm recycling
- Kirkland Green Business Program
- Semiannual Sustainability Education Series
- Monthly polystyrene foam collection events

## Multi-Modal Transportation



Offering a variety of transportation modes and creating more ways to improve the amount of physical activity are important steps to becoming a more sustainable City. As an example, the bike/walking path through the [Cross Kirkland Corridor](#), the 5.75 mile segment of the Eastside Rail Corridor, provides an uninterrupted non-motorized means of transportation and a healthy way to get around. The City encourages

its employees, residents and local businesses to participate in the incentive driven carpool/vanpool rewards system at [www.rideshare.com](http://www.rideshare.com)

As safety is essential for encouraging modes of transportation other than vehicles, in 1995 the City created the first "[PedFlag](#)" [Pedestrian Safety Program](#) in the country and in 1997 started its [Flashing In-Pavement Lights Crosswalk](#) program. Included in the City's capital funding is



sidewalk installation for the Safe School Walk Routes Program. Then in 2006, Kirkland was one of the first cities in Washington to adopt a “*Complete Streets*” ordinance to provide for design of streets that enable safe access for all users. This includes bicycle and pedestrian ways in streets. The City has been identified as being among the “Top 15 Most Walkable Cities” by Walking Magazine. The City is preparing its 2014 [Transportation Master Plan](#) that will further the City’s effort in focusing efforts to improving its multi modal transportation system.

## Parks, Land Use & Open Space

Sustainable land use means using land assets in a way that will benefit the local economy while restoring and improving the natural environment. The way we use our land and open space must take into consideration the amount and type of green space or parks available for the community. Kirkland has a variety of neighborhood and community parks. To become increasingly sustainable, it is important to construct parks that take minimal amount of maintenance both in terms of cost and city personal. For example, the City is able to use existing water rights to irrigate our shoreline parks with lake water from Lake Washington. Worn wood decking on City piers is being replaced over time with grated metal decking that requires no maintenance, lasts much longer than wood and allows for the penetration of sunlight to the water below that benefits salmon recovery.

The City has developed the [Green Kirkland Partnership](#) in which volunteers plant native plants and remove non-native and invasive species in City parks. It is an alliance between the City, [Forterra](#), other nonprofit partners, businesses and the community to restore more than 400 acres of natural area in the City.

## Food Availability and Resilience

See discussion below on Urban Farming and Food Policy.

## B. Economic Sustainability

Ensure a strong economy that is able to support our community while not compromising the environment in which we live.

### Target area and goals for Economic Sustainability include:

- **Strong economy:** maintain a strong, diverse, competitive, profitable local economy that provides goods, services and jobs in the community.
- **Resources:** encourage efficient and responsible uses of resources.
- **Living wage:** increase the number of local living-wage jobs.
- **Green:** promote truly green, environmentally friendly businesses and discourage those that are not.
- **Infrastructure and public facilities:** provide an efficient and complete multi-modal transportation system that supports the local economy and business community.



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- **Urban farming:** encourage urban farming to provide locally grown food and encourage citizens to grow their own food and to raise domestic animals that produce food.
- **Resilience:** increase the community’s ability to adapt to the changing climate and other global forces through promotion of a diverse economy, building green, and instilling community value toward resource conservation.

## Kirkland’s Business Community

In its plans and programs, the City works closely with the Kirkland business community to support, promote and encourage a positive business climate through the Kirkland Business Roundtable, Green Business Program, City Council goals of Economic Development and the Economic Development Element Chapter of the Comprehensive Plan. Streamlining the City permit process and providing direct information to new businesses are ways that the City can encourage businesses to locate in Kirkland. Important to the City is providing infrastructure and public facilities, including an efficient and complete transportation system that support economic activity and growth. Encouraging high quality businesses can lead to living wage jobs for its residents who work close to home that makes for a more stable and healthy community.

## Urban Farming and Food Policy



*McAuliffe Park Pea Patch*

*Kirkland Farmer’s Market*

Most of our food travels great distances to get to our dinner table. Even though regional food production increases each year, regional and global food production is affected by climate change and other factors, such as loss of farmland to housing and commercial building. Extreme weather events have and will likely continue to affect food production. Therefore, resilient food management needs to be used regionally and locally.

Within each local jurisdiction, demand for fresh food can be met through allowances for local urban farming and with the encouragement of residents to grow at least some of their fresh produce in their yards or in community gardens. Additionally, supplementing individual households with healthy sources of protein like eggs from backyard chickens should be encouraged. In turn, community gardens can create a more inclusive community character and



dialogue while individual gardens can promote a more direct connection to the environment for individuals. And many people donate extra food that they grow to local food banks.

Expanding food related uses within the City can help to create a more resilient community and sustainable economy, and provide local food in the event of disaster. In addition, local food production reduces stress on the environment by reducing the number of miles our food has to travel to get to us. Urban farming should utilize organic practices to reduce the negative effects of pesticide and herbicide damage in our waterways and soils.

The City supports urban farming by making City parks available for [farmer's markets](#) and [community gardens](#). City Hall is a drop-off site for Community Supported Agriculture farms whereby local farmers drop off boxes of organic produce that are picked up by Kirkland residents. In addition, regulations have been added to permit chickens on single family lots.

## C. Social Sustainability

Ensure that we provide a sense of community to our residents, and support basic health and human service needs.

### Target areas and goals for Social Sustainability include:

- **Equity:** provide equitable opportunities and outcomes for all our members, particularly the poorest and most vulnerable members of the community.
- **Increase access to healthy foods:** provide diverse ways for all community members to access healthy, fresh produce and foods.
- **Diversity:** be inclusive of all people, without regard to their income, abilities, age, race, or gender.
- **Interconnected/social cohesions:** provide processes, systems and structures that promote connectedness within and outside the community at the formal, informal and institutional level.
- **Quality of life:** ensure that basic needs are met and foster a good quality of life for all members at the individual, group and community level (e.g. health, housing, education, employment, safety).
- **Democracy and governance:** provide democratic processes and open and accountable governance structures.

### Social and Political Equity

The City seeks to provide equity by financially supporting various [human service programs](#), requiring affordable housing in new development and encouraging equal access to goods, services and employment. Healthy local food is available at grocery stores available throughout the City and at the summer farmer's markets. The City promotes connectedness by supporting neighborhood associations, community groups and civic events. It strives for a high quality of life in all facets of its duties to the community. The City has an open democratic process in making decisions and implementing plans, regulations and programs.