



City of Westminster Green Practice Inventory

Leadership

Westminster is a locally, nationally and internationally recognized environmental leader.

Environmental leadership starts with City Council's Strategic Plan. Within their Strategic Plan, Council has identified its Goal of a Beautiful and Environmentally Sensitive City. In order to accomplish this Goal, Council has identified the following objectives:

- Have energy efficient, environmentally sensitive City operations
- Reduce energy consumption citywide
- Increase green space (parks, open space, etc.) consistent within defined goals
- Preserve vistas and view corridors
- Offer convenient recycling program for residents and businesses with a high level of participation

In addition to this leadership focus, Westminster has signed the U.S. Mayors Climate Protection Agreement.

Operationally, policies regarding environmental sensitivity are in place including measures to reduce energy use, encourage renewable energy sources, use products made from recycled materials and include those materials in purchasing decisions.

In the community, businesses and residents are offered education on ways in which they can be energy efficient, conserve water, use alternate modes of transportation and recycle.

Westminster is also focused on preserving our spaces and has already preserved over 1/3 of land area as permanently protected "green space" consisting of public parks and open space, golf courses and homeowner association owned parks. This is the second highest percentage of any Front Range city.

What follows are ways in which Westminster demonstrates environmental leadership, from small practices to large. While this list is not all inclusive, it is intended to capture the diversity of Westminster's leadership role.



City of Westminster Green Practice Inventory

Education

Community Outreach

- The City maintains a comprehensive environmental section on its website that provides information to the community on City programs.
- The City Edition contains valuable environmental education information in every issue.
- The City sponsors an annual Earth Day and Arbor Day celebration where residents are given trees for planting and information on environmental matters in the community.
- The City's Environmental Advisory Board promotes and provides advice to City Council on recycling, appropriate disposal of hazardous materials and pollution reduction.

Recycling

- The City provides the *Hard to Recycle Guide* online to residents that includes information on difficult-to-recycle materials like computers.
- The City's libraries sponsored a "Go Green and Re-Create" creative section to allow children to display sculptures and art made from recycled materials.

Water

- The City puts on a Water Festival for up to 1,100 4th and 5th grade students each year at Front Range Community College to promote water conservation and wise water use.
- The City offers workshops to citizens throughout the year on topics such as indoor conservation, outdoor conservation, and irrigation efficiency.
- The City provides free walkthrough landscape irrigation audits and utility bill analysis to homeowners and businesses to encourage more efficient use of water.
- The City sells reusable shopping bags to reduce landfill waste and remove plastics from the stormsewer.
- The City distributes free high efficiency showerheads and aerators to customers who request them.



City of Westminster Green Practice Inventory

Education (continued)

Water (continued)

- The City distributes “Water Matters” quarterly and often provides information on how to conserve water.

Alternate Transportation

- The City promotes RTD’s the Ride Arrangers program to employees.

Staff Training

- The City provides training at every new employee orientation on environmental sensitivity.
- The City provides lunch-and-learn sessions on a variety of topics for employees including how to use mass transit, recycling in the office and how to hold zero-waste events.
- The City provides and makes available a half-day environmental law compliance training for all City employees.
- The City encourages staff to attend trainings on energy, water and resource conservation.

Energy Conservation

- The City’s libraries check-out watt meters for use by residents in the evaluation of energy use on household appliances.



City of Westminster Green Practice Inventory

Water

Reclaimed Water

- The City's reclaimed water system treats waste water for use in landscape irrigation. By build out, the system will save 3,500 acre feet of water, enough to supply 8,150 single family homes with all of the water they would need for a year.
- The City supplied over 1475 acre-feet of water to reclaimed customers in 2010, about 7% of all water use. This is enough water to supply 3,500 single family homes with all of their water needs for a year.
- The City utilizes reclaimed water at City parks, facilities, businesses and residential developments whenever possible.
- At build out the City's reclaimed water system is anticipated to comprise 10% of Westminster's total water supply, 3,500 acre feet, enough water to supply over 8,100 single family homes with water each year.

Water Conservation

- The entire City-maintained irrigation system is centrally controlled allowing quicker changes to the system based on weather conditions.
- The City installed moisture sensors in City-maintained landscaped areas which reduces irrigation following rain events.
- The City's water rate structure encourages water conservation by charging more per gallon for high water users.
- The City incorporates very low water usage designs into its landscaped medians.
- The City utilizes motion activated water sensors in most facility lavatories to conserve water. Fire stations have installed water conserving shower and sink fixtures.
- The City offers programs to encourage the installation of high efficiency toilets and urinals saving over 97 acre feet of water since 2003. This is enough water to supply 227 homes with their total annual water use.



City of Westminster Green Practice Inventory

Water (continued)

Water Conservation (continued)

- The City requires soil amendments and advanced irrigation technologies be installed in new construction through the landscape regulations.
- The City requires irrigation systems in new construction be audited and tested to meet minimum Irrigation Association standards.
- The City's staff has participated in the development of conservation focused Best Management Practices for the Metro Mayors Conference, the Colorado Water Conservation Board, and the Green Industries of Colorado.

Water Quality and Stormwater Protection

- The City has a stormwater fee which provides funds to detain and clean storm water before it enters the creeks.
- The City staff inspects detention ponds to assure that they are functioning correctly.
- The City provides pet waste bag dispensers at many parks, trails, and open space areas. This reduces contaminants washing into the City's creeks. The City requires developers to provide "water quality ponds". Urban runoff is routed to these ponds where vegetation helps to filter out pollutants before the storm water enters the City's creeks and drainage ways.
- The City's construction crews and field operations personnel protect the stormsewer through the use of stormdrain barriers.
- The City has policies to prohibit grading within the floodplains along the City's creeks.
- The City's crews annually inspect and contractually clean 400 storm drainage inlets annually removing debris and silt that would otherwise pollute waterways.
- The City has spent over \$40 million to upgrade its wastewater treatment plant in part to improve the water quality of the treatment plant effluent before it discharges into Big Dry Creek.



City of Westminster Green Practice Inventory

Water (continued)

Water Quality and Stormwater Protection (continued)

- The City's crews and/or contractors clean open drainage channels removing silt, vegetation and debris that clog and pollute waterways.
- The City's crews replace storm sewer inlet manhole covers with the message "Drains to River" cast into the covers and install plaques on storm inlet curb faces with the message "no dumping-drains to river" in an effort to stem illicit waste discharges.
- The City has purchased most of the floodplain areas within the City to protect wetlands, wildlife corridors and native vegetation.



City of Westminster Green Practice Inventory

Energy

Construction in the Community

- The City provides a flat rate building permit fee to encourage solar collector installations for residential properties.
- The City has adopted the 2009 International Building Code Energy Code increasing efficiency requirements.

City Facilities

- The City has used methane from wastewater treatment as an energy source for the last twelve years at the wastewater treatment plant.
- The City has performed energy audits on all City-owned buildings and is implementing recommendations to reduce energy usage including the replacement of City facility roofs with white roofs to reflect heat, installing lighting control improvements and improvements to all heating and ventilation systems.
- The City's Administrative Offices operate on a 4-day focused work week and the City entertains 4-day work weeks for operations in areas outside of Administrative Offices.
- The City changed from incandescent to high efficiency LED bulbs in the City's traffic signals, significantly reducing the City's energy usage.
- The City sets all facility thermostats on timers for efficient energy utilization.
- The City uses solar power for irrigation systems in medians at 128th Avenue and Zuni Street, 108th Avenue and Oak Street, and in the right-of-way at 72nd Avenue and Sheridan Boulevard.
- The City entered into a power purchase agreement with Main Street Power that included the installation of photovoltaic solar panels at City Park Recreation Center, West View Recreation Center, the Public Safety Center and the Municipal Service Center allowing these facilities to utilize solar energy, reduce reliance on power production plants and the associated environmental impacts, and reduce energy costs.



City of Westminster Green Practice Inventory

Energy (continued)

City Facilities (continued)

- The City's Fire Department replaced outdated radiant heaters in apparatus storage bays.
- The City's Fire Department replaced appliances in stations with energy efficient models including more efficient extractor machines and air drying cabinets for bunker gear.
- The City upgrades and installs advanced motor technology in water and wastewater operations to save energy.
- The City has upgraded its holiday lights to high efficiency LED lighting.

Information Technology

- The City began a computer server consolidation effort (virtualization) to reduce server energy consumption and cooling costs. To date, the program has reduced the number of computer servers from 82 to 52, reduced energy use by 60% and will save a projected \$17,500. This program will also shrink server cooling requirements by 57%.
- The City revised the desktop PC purchase standards to include energy efficient power options and operations.
- The City completed the replacement of 900 CRT monitors with energy efficient LCD monitors, reducing power consumption requirements by more than 50%, saving about \$17,000 per year in energy costs.
- The City implemented remote access tools to enable staff to provide centralized desktop support and troubleshooting for all computers connected to the City's network. This effort significantly reduced the travel and fuel consumption previously associated with supporting desktop computers in 34 City facilities.
- The City evaluated and implemented secure remote access software and systems that enable eligible employees to access their City desktop computer and systems from their home PC supporting and promoting telecommuting opportunities and after-hours access.



City of Westminster Green Practice Inventory

Energy (continued)

City Fleet Vehicles

- The City's Fleet Maintenance runs an aggressive preventive maintenance program on fleet vehicles which increases fuel efficiency.
- The City's wastewater treatment facility replaced a pickup truck with a fuel efficient hybrid vehicle and purchased an electric powered cart for on-site transportation.
- The City has purchased five hybrid vehicles for use within operations at the City and continues to evaluate the use of alternative fuel vehicles.
- The City's Fire Department apparatus are all being upgraded to LED lighting systems to make electrical systems more efficient.



City of Westminster Green Practice Inventory

Transportation

Pedestrians and Bicyclists

- The City has required developers to install 8 foot-wide sidewalks detached 12 feet from the curb along arterial and collector streets to accommodate pedestrians for over 20 years.
- The City requires a 30-foot landscaped area along arterial streets with 8 foot detached sidewalks to encourage pedestrian and bike usage.
- The City encourages compact, pedestrian friendly neighborhoods, which reduces driving. The City has modified its development regulations to encourage compact developments, such as Bradburn Village.
- The City has over 60 miles of off-road bike trails and over 40 trail underpasses at major streets to improve safety and encourage trail usage.
- The City contains over 70 miles of existing trails.
- The City is completing a comprehensive Bicycle Master Plan to identify improvements to bicycle commuting routes, signage and lane marking, and provide a guide for future planning for bicycle commuters.

Mass Transit

- The City has a program which provides 46 bus shelters and 145 bus benches at RTD bus stops to encourage transit usage.
- The City has planned two commuter rail stations as a part of RTD's Fastracks project. The City is also encouraging high density development within walking distance from the proposed stations.
- The City provided financial incentives to relocate the Church Ranch Park-N-Ride to a location abutting the future commuter rail station. The City spent \$ 3.6 million to construct vehicular and pedestrian bridge under US 36 to link the Westminster Promenade and the Shops at Walnut Creek projects to the new park-n-ride.



City of Westminster Green Practice Inventory

Transportation (continued)

Mass Transit (continued)

- The City provides a 50% reimbursement to employees on RTD tickets/passes for transportation to and from work.
- The City is working with RTD to ensure that the FasTracks program is fully implemented. This program will provide commuter rail service from the Denver Union Station including rail stops in Westminster.

Workflow Efficiency

- The City's messenger changed routes to include the recreation centers thus reducing staff travel time.
- The City advocates for carpooling to City events/trainings.



City of Westminster Green Practice Inventory

Land Preservation

Open and Green Spaces

- The City has preserved over 1/3 of land area as permanently protected “green space” consisting of public parks and open space, golf courses and homeowner association owned parks, the second highest percentage of any Front Range city (after Boulder).
- The City has the second oldest municipal sales tax funded open space acquisition program in Colorado.
- The City requires that residential developers donate a significant part of their site (or pay a cash-in-lieu fee) for parks and open space.

Land Use

- The City accommodates two community vegetable gardens on City property.
- The City’s Comprehensive Land Use Plan encourages sustainable development.
- The City’s Growth Management Plan assures that the City’s rate of residential growth will remain within the City’s ability to provide services, especially water and sewer.

Low Impact Operations

- The City uses “trenchless technology” when constructing water lines to protect the environment from damage and degradation.

Emergency Support

- The City dedicates 24-hour response to cleanup releases to the environment assuring protection of resources.

Air Pollution Reduction

- The City’s street sweeping program removes debris on streets to reduce airborne particulates, improve air quality and reduce pollution in stormsewer systems.
- The City is dedicated to street sweeping within four days after any snowstorm.



City of Westminster Green Practice Inventory

Reduction of Materials Use

Material Use Reductions

- The City's Fire Department has eliminated the use of approximately 2,000 plastic bottles per year by using bulk drink dispensing coolers.
- The City continues to reduce the number of biennial budget documents printed for the departments from 140 copies to 35 copies (each book contains approximately 350 pages) and encouraging staff and the public to review the document electronically on the City's website.
- The City converted the printed City Edition publication that was previously mailed to every household in Westminster to an electronic format limiting the number of printed copies.
- The City revised the laser printer purchase standards to require all printers support duplex printing capabilities to reduce paper usage and waste.
- The City offers emailed receipts to guests before automatically printing receipts.
- The City uses reusable dinnerware and utensils in many break rooms and offers ceramic mugs to guests.
- The City's Municipal Court provides pitchers of ice water in jury rooms in lieu of plastic water bottles.
- The City's staff email reports and information whenever possible and leave it up to the recipient to print the material as needed.
- The City utilizes computers and projectors when reviewing documents when ever possible, instead of printing copies for attendees during meetings.
- The City reminds participants attending training courses to bring their own cups/glasses to classes.
- The City utilizes wipe off name plates at trainings instead of paper name tents.
- The City encourages all staff to utilize Green reusable shopping bags.



City of Westminster Green Practice Inventory

Reduction of Material Use (cont.)

Material Use Reductions (continued)

- The City notes vacant and City operational accounts in water billing files so they are not printed with other billing.
- The City utilizes online water bill statements reducing paper use.
- The City encourages the use of scanning as opposed to faxing to save paper.
- The City provides electronic pay stubs for all benefitted employees saving 63 reams of paper and 31,456 envelopes per year.
- The City provides electronic time sheets.
- The City's library newsletter is electronic only.
- The City provides online sales tax bill pay for business owners.

Chemical Use Reductions

- The City's wastewater treatment plant has switched from chlorine to ultraviolet light for disinfection, thus eliminating the use of toxic chlorine at the site.
- The City's Fleet Division has eliminated the chemical parts washing system with a citrus based cleaner.
- The City properly disposes of industrial waste including asbestos concrete water pipe removed by field crews, used aerosol paint cans and radio batteries.
- The City's Northwest Water Treatment Facility identified process chemicals that were highly concentrated reducing semi-truck delivery requirements by 87% on an annual basis. The change to these chemicals also reduced waste generation by the treatment process by 50% .
- The City eliminated the use of the Halon (contains bromine) fire suppression agent in the computer room due to its ozone depletion potential and installed an Inergen system that contains no environmentally harmful gases.



City of Westminster Green Practice Inventory

Reuse of Materials

Reuse of First Generation Materials

- The City's Public Libraries are by its very nature an example of material reuse. By purchasing materials (books, CDs, DVDs, and magazines) that the community shares instead of each patron purchasing private copies that would wind up in landfills, we efficiently use resources. The library owns over 253,700 items that can be checked out for a total circulation of 1,474,071. Every time after the very first time an item is checked out from the library, the environment is helped.
- The City donates its decommissioned computers to the 7-10 Rotary Club to be reconditioned and given to eligible students and non-profit agencies. This program extends the useful life of computers that would otherwise need to be recycled or otherwise disposed.
- The City's Public Libraries places out-of-date back issues of magazines, after the appropriate retention time, on a free shelf for residents. School teachers often collect these magazines for use in crafts and school projects.
- The City's recreation and library staff makes scratch paper from out-of-date paper flyers.
- The City allows guests and staff to bring in their used magazines for reading material in recreation center weight rooms.
- The City's staff reuses office supplies such as binders. Unused office supplies are given or traded with other divisions
- The City reuses fencing in open spaces.
- The City's libraries add used copies of donated books, CDs, and DVDs to its collection based on patron demand.
- The Friends of the Library accept donated used books, CDs, and DVDs that the library cannot use for resale. Items that do not sell in the Friends' Used Book events are given to local hospital waiting rooms, the Adams County Prisons, and various educational institutions.



City of Westminster Green Practice Inventory

Recycling

Recycling

- The City signed an agreement with a full service recycling company that provides environmentally sound recycling services for monitors, computer hard drives and many other types of surplus electronic equipment.
- The City recycles aluminum cans, stationery, plastic and newspapers at most City owned facilities.
- The City recycles used motor oil and antifreeze from maintenance on vehicles and equipment citywide.
- The City offers plastic bag recycling bins to staff.
- The City recycles damaged steel sign posts and aluminum sign blanks which are no longer viable for infield use along with any scrap metal.
- The City takes concrete and asphalt spoils to recycling facilities to be ground up and used for road stabilization material.
- The City offers recycling stations at special events for the public.
- The City recycles no-longer-needed cell phones through a program that reconditions them for senior citizens and victims of domestic violence for making 911 calls.
- The City recycles toner cartridges from operations and funds raised are donated through cartridges for kids to the Westminster Legacy Foundation.
- The City requires solid waste haulers to offer recycling to all City residents.
- The City maintains recycling containers for residents at several City facilities.
- The City provides convenient recycling within facilities including recycling desk-side and large bins in various locations.
- The City facilitates the collection of citizen paint and other materials requiring special disposal techniques.
- The City recycles all paper after its annual data destruction.



City of Westminster Green Practice Inventory

Recycling (continued)

Recycling (continued)

- The City returns deteriorated asphalt pavement removed in the street patching process to asphalt producer plants for recycling.
- The City's libraries shred and recycle all library card applications.
- The City recycles tree branches into mulch, which is then provided free to residents to help reduce landscape water usage.



City of Westminster Green Practice Inventory

Composting and Waste Recovery

Composting

- The City promotes zero waste events where Staff are encouraged to reduce trash by 85% through recycling and composting waste where possible.
- The City recycles all paper after its annual data destruction.
- The City has begun using liquid fertilizer from compost at select golf course locations.
- The City uses all mulching mowers for maintenance. Grass trimmings and leaves are mulched and returned to the soil in lieu of disposal.
- The City's special events staff are phasing out disposable product supplies for materials that can be composted and encourages vendors to utilize compostable materials in an effort to convert special events to zero-waste.
- The City provides a composting program for all pet waste at leash free parks.

Waste Recovery

- The City applies bio-solids from its own waste water treatment plant on a 3,000 acre farm near Strasburg, Colorado, recovering and utilizing the nutrients in the bio-solids to grow crops.



City of Westminster Green Practice Inventory

Purchasing of Recycled Products

Recycled Product Purchasing and Purchasing Standards

- The City purchases from office supply vendors who support and implement various forms of recycling.
- The City purchases recycled office supplies when available.
- The City makes it a practice of purchasing restroom products made from 100% recycled paper.
- The City does not permit the purchase of Styrofoam products for operations.
- The City's street crews and contractual projects have been utilizing at least 20% recycled asphalt pavement for the past 15 years.
- The City has, for many years, utilized rubberized pavement crack filler materials that are formulated using recycled crumb rubber from ground vehicle tires.
- The City utilizes playground safety surfacing made from recycled tires at these parks: Cheyenne Ridge Park, Windsor Park, Nottingham Park, Big Dry Creek Park, and Westfield Village Park.
- The City continues to evaluate the construction of street improvements with recycled asphalt shingles.
- The City uses a layer of shredded tires (3" deep or more) in the base-course of playground surfacing.