

Previous Sustainability Efforts

It has been more than twenty years since Mayor Katherine Procop proposed to implement a "Twinsburg Green Initiative." The Green Initiative would focus on making the City of Twinsburg a more environmentally friendly community by preserving floodplains associated with Tinkers Creek, by encouraging preservation of unique and significant habitat for wildlife, by providing public open spaces for the enjoyment of residents and by seeking ways to make the City a more sustainable place. While the Green Initiative originally focused on open space and habitat preservation, over the years its scope was expanded into broader issues of sustainability.

With the support of the public, the City acquired significant land areas which were devoted to parks and open space - a little over 25 percent of the City's developed area. The City purchased significant portions of the Tinkers Creek flood plain and the riparian corridor comprising Center Valley Park, as well as, 900 acres comprising Liberty Park. Liberty Park is part of the Summit Metro Parks system with the City of Twinsburg managing the active recreation areas and the Metro Parks managing the park lands, including the nature Center, shelter, amphitheater and trails built in 2014. Several other smaller land areas have been acquired and added to the City's open space network under this initiative.

Greenspace

- 1900 acres of park and green space within the City
- Approximately 425 acres of conservation easements and deed restricted properties
- Nature Works grant - purchase of Center Valley Park and partnership with Summit Soil and Water District to hold conservation easement
- Darrow Road Rock Ledge Buffer acquired with a Clean Ohio Grant
- Tinkers Creek Corridor which includes the Twinsburg Bog acquired with a Clean Ohio Grant
- Liberty Park - 900 acre park purchase by the vote of the people to support a bond levy
- Darrow Woods acquisition of land proposed for residential development with Land and Water Conservation funding

In 2009 an Energy Conservation and Building Improvements Study identified several areas where energy management and energy conservation opportunities existed. This study provided a baseline from which a host of energy related projects would be implemented over the next several years. At about the same time the above study was implemented, the Chrysler Corporation announced the closing of the Twinsburg Chrysler Stamping Plant. This closure meant a 12% decline in available City

revenues due to employment and income tax losses. The impetus for improved efficiency in the provision of public services and public administration was clearly in place.

It was in this environment that the City's interests in conservation and efficiency became focused and the Green Initiative became more than just an open space and environmental conservation program. Over the next several years the City would investigate and implement several projects and programs designed to save precious financial resources and to reduce energy consumption and the City's carbon footprint. The City's efforts are summarized in the following pages.

1. ENERGY MANAGEMENT

- Lighting Retrofits – energy efficient lighting retrofits were implemented at the City Government Center administrative, Police Department, Fire Department, and Fitness Center with financial assistance provided by Summit County through an Energy Efficiency and Conservation Block Grant. Project efforts replaced more than 1,000 lights and thermostats for a project cost of \$177,784.
- Window and Door Replacement – with assistance from a NOPEC grant older windows and 10 doors at the Government Center were replaced with energy efficient products and newer windows re-caulked and resealed for a project cost of \$67,000.
- Solar Water Heating at Water Park – solar water heating arrays were installed at the City's outdoor pool with grant assistance (50% of project costs) provided by the Ohio Department of Development's Advanced Energy Program. This project has reduced gas consumption and reduced water heating expenses by more than 50%.
- Building Envelope Improvements – Parks and Recreation, Wastewater and Service Department buildings were inspected and weatherized with new door seals, re-caulking and insulation.
- Traffic Signal Conversion to LED – all traffic signals in the City have been converted to LED lighting elements for energy conservation.
- Hybrid Vehicles – Lease or purchase of hybrid police and building division staff vehicles.
- Hybrid Mowers – Golf Course crews now utilize a number of hybrid and alternate fuel mowers.
- Crew Cab Service Vehicles – Service Department purchase policies have been changed to enable fuel savings by buying crew cab pickup units which are more efficient in transporting larger work crews when the need arises compared to typical two person pickup truck seating.
- Methane Powered WWTP Turbine – with funding provided by the US EPA, a methane powered electric generator has been installed at the

Wastewater Treatment Plant. The generator, which runs off waste gases from sludge digestion, provides a large part of the plants power requirements thereby significantly reducing energy costs (saving \$51,000 per year) at the WWTP.

- Virtualization of Servers – Twinsburg's IT staff has gone to virtual servers, reducing the City's on-site servers from 12 to 4. This reduced the energy required for server units and the need to provide climate control, while having the additional benefit of increasing storage capacity and overall system speeds.
- Variable Frequency Drive Motors – Variable frequency drive motors have been employed at the golf course pump station and at the Waste Water Treatment Plant to facilitate energy and cost savings.
- Idling Policies – Service and Building Department policies include a no idling policy to reduce fuel consumption and emissions when vehicles and equipment are not in active use.
- Programmable Thermostats – Programmable thermostats are employed in all administrative office areas to reduce energy demands at low use periods.
- Motion Sensing Lighting Controls – as part of lighting upgrades nearly 250 motion sensing light controls were put in place for energy savings.
- Roundabouts – the City adopted a policy of considering roundabouts as an alternative for any intersection improvement. Roundabouts have been constructed at Liberty Road, Glenwood Road and Meadowood Drive. Roundabouts reduce idling time, keep traffic flowing, eliminate the need for traffic signalization and have secondary benefits of reducing greenhouse gas emissions and fuel consumption.
- Look Good, Feel Good Program – Utilizing grant funds from NOPEC and matching funds from Summit County's Community Development Block Grant funds the City and County jointly operated a resident homeowner energy conservation program that provided grant funds to income qualified homeowners for elements like furnace replacement, window and door replacement, electric panel upgrades necessary for heat/air conditioning repair, weatherization and other purposes. Five households were provided assistance through this effort.

2. WATER MANAGEMENT

- Golf Course Water Management – the City course is irrigated with storm water which is retained on the property from adjacent commercial development. Course runoff goes into sediment basins before entering the ponds. Pond embankments are not cut and filter runoff prior to entering the ponds. Irrigation pond is irrigated to keep high oxygen concentrations to enable algae control and benefit aquatic life.
- Laurel Creek Restoration – Dam removal and stream restoration was performed using ARRA funds to achieve improved water quality and habitat. Approximately

3,000 linear feet of Laurel Creek and its adjacent uplands and wetlands were restored just west of Ravenna Road to Tinker's Creek.

- Pond Brook Restoration and Wetland Mitigation Bank – in cooperation with Summit Metro Parks, 14.6 acres of wetlands were restored and 35 acres wetlands were enhanced. A total of 14,000 linear feet of stream has been restored through a wetland mitigation bank program.
- Street Tree Program – Twinsburg maintains a street tree inventory and enforces tree protection regulations, all of which contribute to improved water quality, reduced stormwater runoff and temperature moderation.
- Natural Areas Management – the City owns and manages nearly 2,000 acres of open space, 1,640 acres of which is undeveloped and managed as natural area. More than 425 acres of this area is protected by conservation easements and deed restrictions. In addition to providing tremendous habitat, these lands preserve riparian zones, wetlands, flood zones and provide multiple water quality benefits.
- Controlling storm water by preventing flooding helps to keep our streams healthy. The City has installed multiple regional storm water detention basins to prevent flooding (Dayflower/Forest Lake/Adams Park/Enterprise). These basins keep basements from flooding and storm water from becoming contaminated in a flood event. Additionally, the City has a manhole rehabilitation program to prevent and reduce infiltration into the sanitary sewers and thus eliminating overflows into the streams. The City has installed sanitary sewers in areas previously served by septic systems to prevent illicit discharges due to failing systems (Chamberlin Road/ Post Road/ Liberty Road/ Cannon Road/ Shepard Road).

3. CHEMICAL MANAGEMENT

- Beet Juice and Brine for Ice Control – Public Works employs various recent technologies and procedures for more environmentally and affective ice control including using beet juice with road salt and employing brine spray for more effective ice control and for reductions in salt use.
- Organic Fertilizers at the Golf Course – Glen Eagles Golf Course is fertilized with organic fertilizers rather than chemical fertilizers. Grass clippings are recycled.
- Soy-based Inks Used in Plotters – Plotters used in the Engineering Division's G.I.S. system use soy-based inks which are non-toxic and bio-degradable.
- Secure Drug Disposal at Police Station – in an effort to facilitate the safe disposal of un-used or out-of-date drugs, the Police Department has provided a secure drug drop box, where prescription and other drugs may be safely disposed of and will not find their way into the waste water system or area streams.
- Recycling of Fleet Maintenance Fluids – Public Works maintains City vehicles and recycles fleet maintenance fluids including used oil, anti-freeze and other fluids.

- Waste Water Treatment Plant – sludge cake is recycled to farm land and non-potable process water is used for plant processes and salt brine makeup.

4. WASTE MANAGEMENT

- Going Digital – Waste paper has been reduced significantly by emphasizing digital communications and digital record keeping.
- Used Paper Recycling – All City Departments maintain separate waste containers for the deposit of waste paper for recycling.
- Resident Recycling – curbside residential recycling and a 24/7 city recycling drop-off site are offered in partnership with Twinsburg’s contracted hauler, Waste Management.

5. PUBLIC ENGAGEMENT/EDUCATION

- Caught Green Handed – this recycling promotion included information distributed to area residents reminding them of the types of waste that are recyclable and encouraging greater attention to sorting and recycling of wastes.
- News Releases/News Letter – The City has provided displays and educational materials promoting Sustainable Lawn Care Practices, Pet Waste Cleanup, Water Conservation, and the DUMP (Disposal of Unused Medications Properly) Program.
- Stenciling of Stormwater Catch Basins – both decals and paint stenciling have been employed as a public information measure, reminding residents that storm sewers flow to surface waters.
- Earth Day Sponsorship – Twinsburg Environmental Commission members have organized and sponsored Earth Day events since 2015. Displays and activities promoting proactive water quality habits, conservation, recycling, energy conservation and environmental stewardship have been incorporated into this annual event.
- Twinsburg Environmental Commission organized Tinkers Creek Clean-up events in support of River Day (water quality awareness).
- Environmental Commission has promoted and secured recycling commitments from several multi-family residential complexes in the City.
- Clean-up Day – a community wide clean-up day is scheduled annually. A clean water educational component is incorporated into this activity.
- Rain Barrel Program – using plastic syrup barrels donated by Coca-Cola Company, the Environmental Commission organized several rain-barrel give away programs which promoted water conservation and water quality awareness. Permits and installation inspections are provided by the City at no charge.