

Maplewood Seasons

The Greening of Maplewood

Step-By-Step

By Shann Finwall,
Environmental Planner

Sustainable operations involve planning and carrying out the city's day-to-day work with full consideration of how it affects long-term environmental and sustainability goals. It means eliminating waste, lowering long-term maintenance and operating costs, and improving the environment and the community. It also translates into good economic sense.

In April 2010, city staff formed a Sustainable Operations Work Group to examine city operations and determine impacts these operations have on the environment. Staff from all areas of the city participated, including maintenance staff in Parks, Streets, Sewers, and Mechanical divisions of Public Works. The group decided to focus on six areas of operations: fleet, snow removal, building operations, trash hauling, living streets, and turf management. Staff assessed operations in each area to determine if changes were needed to lessen environmental impacts, and if so, whether the changes were practical, economical, and would meet community needs. A summary of the

recommendations can be found on the city's website at www.ci.maplewood.mn.us/sustainability (2010 Sustainability Report).



One overriding recommendation that came from the Sustainable Operations Work Group is the city's participation in the Minnesota GreenStep Cities program (www.greenstep.pca.state.mn.us). GreenStep Cities grew out of a directive from the 2009 Legislature. It was developed by the Minnesota Pollution Control Agency and others to assist cities in achieving local and state goals for the reduction of greenhouse gas emissions. The voluntary program assists and recognizes cities for the implementation of best practices in the areas of building and lighting, land use, transportation, environmental management, and economic and community development.

In December 2010, the city council authorized the city's participation in Minnesota GreenStep Cities. Now Maplewood will begin implementing best practices in the areas described above. The

best practices are undertaken in a tiered approach, focusing first on cost-effective options for greenhouse gas reductions.

One best practice is the implementation of an environmental purchasing policy. The Maplewood Green Team drafted such a policy in 2010 and is now prepared to implement it city-wide. Environmental purchasing will demonstrate the city's commitment to buying goods, materials, services, and capital improvements in a manner that reflects Maplewood's core values of fiscal responsibility, social equity, community and environmental stewardship. Other best practices currently under way are a living streets policy (see article on page 2), a fleet inventory and audit (see article on page 3), and energy audits on city buildings and facilities.

Step-by-step as the city integrates each best practice into its operations we will achieve higher energy efficiency and greenhouse gas reductions. Join the city as we climb the stairs of sustainability by taking on your own best practices at home or at work. If you don't know where to begin, visit the "Do it Green Minnesota" website at www.doitgreen.org.



Sustainable Operations



Fleet



Snow Removal



Living Streets



Turf Management

Living Streets - A Vision For The Future

By Michael Thompson, City Engineer/Deputy Director of Public Works

Street design can have a strong influence on the character of a neighborhood and on the environment. Complete Streets typically refers to street design that provides for multiple modes of transportation such as automobile, mass transit, pedestrian, and bike. Green Streets refers to street design that reduces environmental impacts by reducing impervious surface (narrowing streets), managing stormwater, and providing shade. The term Living Streets pulls together the concepts of Complete Streets and Green Streets, and puts additional focus on quality of life aspects for city residents. Maplewood is moving forward with a Living Streets focus for new and reconstructed streets to promote active living and realize numerous benefits.



Living Street Concept, courtesy of City of North St. Paul and Ramsey Washington Metro Watershed District, with assistance from Barr Engineering

In 2011, Maplewood will be developing a Living Streets policy that addresses safety and accessibility for all the users of our roads, trails and transit systems, including pedestrians, bicyclists, transit riders, motorists, commercial and emergency vehicles and for people of all ages and abilities.

The goal is to have the City Council adopt a policy which could focus on:

1. Improving stormwater quality through expansion of the rain garden program, reducing the impervious footprint, and meeting or exceeding the 1" infiltration standard. Maplewood has 620 residential rain gardens and 60 city-maintained rain gardens. We continue to be a leader nationally in this effort, however, a concerted effort to improve resident participation will be explored through new program offerings and increased financial incentives.
2. Implementing traffic calming measures through the use of techniques best suited for site conditions.
3. Improving biking and walking conditions along natural connector routes and collector streets through designation of bike lanes, sidewalks, or multi-purpose trails.
4. Creating boulevard tree standards that provide benefits such as uptake and filtration of runoff, providing shade to reduce heating and cooling costs, filtering air pollutants, and enhanced aesthetic value and providing a sense of community.

These focus items could change based on stakeholder input. Staff anticipates working on a policy through the Environmental and Natural Resources Commission, Community Design Review Board, Planning Commission and City Council, which will allow for public meetings to solicit recommendations from the general public.

In the interim, the engineering staff is conducting a pilot project for Living Streets on the Western Hills Street reconstruction project planned for 2011 construction. Western Hills is located on the west side of the city, west of Interstate 35E, north of Larpenteur Avenue. Sidewalks are proposed on all collector streets and bike lanes where feasible. Enhanced landscaping, rain gardens, and boulevard trees are proposed, in addition to exploring traffic calming methods such as neckdowns and street narrowing where feasible.

Salt Reduction

A retrofit of snow plow trucks this past winter with side shields and spreader controllers has resulted in a large reduction in salt application in winter 2010-2011. The city has reduced materials used for deicing by roughly 40% per event compared to past years when the application rates were not based on the latest technologies. This is exciting not only because of a reduction in operating costs and improved roadway conditions, but also by reducing the impact to the environment. Using less salt translates into reduced amounts of chlorides reaching our prized lakes and wetlands.



Retrofit Snow Plow Truck

Sustainable Fleet Operations

By Scott Schultz, Fleet Superintendent

The City of Maplewood has 136 vehicles in its fleet. These vehicles are used to meet city service demands including providing public safety and maintaining city roads, sanitary and storm sewer systems, and park land.

To create the most efficient fleet possible, the city completed a fleet inventory and audit, an important first step in evaluating vehicles to better understand where efficiency might be improved. The inventory included surveying how each vehicle is used, its environmental impacts, and fuel usage. The audit recommends short and long term strategies to become a more efficient fleet, which will result in energy and cost savings, cleaner air, and lower CO₂ emissions. Strategies outlined in the audit include:

- "Right sizing" the fleet - matching vehicle type with its intended use;
- Conversion to biofuels;
- Conversion to high efficiency and hybrid vehicles;
- Driver education and behavior programs; and
- Greening fleet maintenance.

One behavioral change the city will be promoting to reduce air pollutants and save energy is to turn off vehicles when not in use. Idling vehicles are heavy polluters. The U.S. Environmental Protection Agency (EPA) estimates that an average car emits 20 times more air pollution when idling than it does when being driven at 32 miles per hour. Idling a medium-sized car for 5 minutes each day will produce about 30 pounds of harmful pollutants in a year, plus 300 pounds of CO₂.

Residents can assist the city in our efforts to reduce harmful emissions from vehicles by practicing driving habits that maximize fuel economy – eco-driving. According to the EPA, if just half of U.S. drivers practiced moderate levels of eco-driving (maintaining air pressure in tires, avoiding sudden starts and stops, etc.), CO₂ could be reduced annually by about 100 million tons, or the equivalent of heating and powering 8.5 million households. To learn more about eco-driving, visit the Eco-Driving USA website at www.ecodrivingusa.com.

Pollution Control Device Retrofits

Diesel engines play a vital role in city operations because of their efficiency, power, reliability, and durability. That durability means there are a lot of older diesel engines on the road that do not meet the more stringent environmental standards for new engines.

Maplewood has received a Minnesota Pollution Control Agency (MPCA) grant to retrofit four of the city's older diesel engine trucks. The grant will fund the purchase and installation of oxidation catalysts, which are pollution control devices that will reduce vehicle emissions by 20%. The catalysts are offered as part of the MPCA's Clean Diesel Grant, with the goal of improving overall air quality by retrofitting diesel vehicles with pollution control devices statewide.



Police fleet includes the Ford Crown Victoria which is a flex-fuel vehicle.

Maplewood Launches Invasive Plant Patrol

By Ginny Gaynor,

Natural Resources Coordinator

Invasive species are a significant threat to natural resources. After years of removing buckthorn, Maplewood has learned that it is very costly to treat invasive species once they are widespread. A more effective approach is detection and control of invasive plants when they first move into an area. This strategy is called early detection and rapid response.

Enter the Plant Patrol! In 2011, Maplewood is partnering with the Ramsey County Cooperative Weed Management Area (RCCWMA) to launch an early detection and rapid response pilot project. If the program is successful, RCCWMA hopes to expand it to other cities in Ramsey County.

This first year we will focus on five or six invasive species that are not yet widespread in Maplewood, such as Japanese knotweed and narrowleaf bittercress. The program relies on both staff and volunteers. Our Parks and Public Works crew members will be on the lookout for the target species as they are out on their regular assignments. Volunteers on the Plant Patrol will select neighborhood preserves and natural areas to monitor throughout the growing season.

RCCWMA will map the data, and city staff will try to eradicate or control new invaders found on city-owned land in Maplewood. The data collected will be entered into a national database of invasive species where it can be accessed by researchers.

We need hardy volunteers to help with this effort! Full training is provided. An informational meeting will be held on Tuesday, March 22 at 7 p.m. at the Maplewood Nature Center (2659 East 7th St.). Call 651.249.2170 to register.



Beaver Creek Buckthorn Removal 2011

Living Simply Is Sustainable Living

By Ann Hutchinson, Lead Naturalist

"Live simply so that others can simply live" – pronounced a t-shirt I picked up at a naturalist conference a few years back. This struck a chord with me. Our global population is approaching 7 billion, with 3 billion people living in poverty. To keep the peace, and preserve the resources on our planet, remembering the three "Rs" - Reduce, Reuse, Recycle will help us keep on track for simple and sustainable living. We are trying to do just that at the nature center:

- In 2002, when it was time to replace the old cedar shingles on the pitched roof, we opted for a product called Eco-shakes, which are made of recycled medical plastic and ground-up wood pallets. These shakes have a 50-year lifetime, and are completely recyclable when finished. For additional information on this product visit these websites www.enviroshake.com or www.renewwood.com.
- The 600 foot floating boardwalk was installed with recycled one-liter bottles as secondary floatation.
- Our picnic area contains a bench and a glider made from recycled milk bottles.
- Our goal is to reduce waste whenever we host public educational programs. In 2004 during the Nature Center's 25th anniversary celebration, we asked all vendors to use compostable plates and utensils. Eureka Recycling brought extra recycling containers to ensure everything that could be recycled, was recycled.



Eco-Shakes



Finished Eco-Shake Roof

Demonstrating examples of simple and sustainable living is one of the Nature Center's goals. In addition to offering classes on composting, rain gardens and organic gardening, this year we are offering a Green Yards series of classes that begins with a program about lawns and mowing height. Did you know that by simply allowing your lawn to grow an extra couple of inches, you can reduce stormwater run-off? Maplewood residents can take the "Mow-Hi" pledge and enter to win a Grand Prize. Visit our website at www.ci.maplewood.mn.us/nc/Mow-HiPledge.

It is our mission to enhance awareness and understanding of land, water and wildlife resources to empower the community to become stewards of the environment. This is reflected in the wilderness ethic we try to teach when hiking: "leave no trace". Think what would happen if we could extend this ethic to our everyday lives!



Crack the code!

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

How is the tree house sustainable?

1. Trees provide _____ and _____
2. The building materials are all _____ or _____
3. The tree roots soak up _____
4. Kids _____, which is great for their health!

Answers: 1 – shade, animal, habitat; 2 – reused, recycled; 3 – rainwater; 4 – play outside

