Minneapolis greenprint

2009 Environmental Report

Minneapolis greenprint

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Minneapolis
City of Lakes

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Minneapolis City Hall green roof 2008

Minneapolis greenprint

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Executive Summary

Minneapolis greenprint

In its fourth year of publishing the GreenPrint annual report, the City of Minneapolis continues down the path of developing accurate, reliable sustainability indicators and data sets that allow us to track performance and highlight the interconnections required for a healthy city. We are collectively learning to operate in ways that protect our resources and well-being for generations to come while inspiring each other to perform the business of government in innovative ways. We hope this report provides information that will also continue to engage more and more residents in embracing what it means to live sustainably in every action every day.

As part of our 2008 efforts, the City:

- Added an 11th indicator to this report that focuses on green jobs as part of an effort to define, develop and track the green job economy in the city.
- Met the target for no combined sewer overflows all year during rainstorms for the second year in a row.
- Met the water quality improvement target for Lake Calhoun for the fourth year in a row while Brownie Lake reached the goal for the first time.
- Adopted an ordinance restricting vehicle idling in the city and raising awareness about the effects of vehicles on global warming.
- Revised the zoning code to require bicycle parking for most developments.
- Made biking a more feasible option for moving around the city by increasing opportunities for people to use bikes with more new trails, the new Midtown Bike Center, and the launching of the Bike Walk Ambassador program.
- Awarded 25 climate change grants for a second year to support grassroots efforts motivating residents and businesses to take action to reduce global warming.
- Completed the City Hall and Courthouse building's 5,000-square-foot green roof with plantings as part of a waterproofing and stormwater management project. Plants will be irrigated with water from a 10,000 gallon cistern installed as part of the project.
- Became one of the first cities in the country to implement a pilot residential collection program that is turning three tons of weekly food waste and non-recyclable paper into organic compost to help enrich soils and gardens.

A number of other important efforts are already under way for 2009 including implementing an environmental purchasing policy for City staff in making purchasing decisions, advancing a Homegrown Minneapolis initiative to increase local food production in the city and generating more sources of clean energy.

Thank you to the many hands involved in producing this report including the City's Citizen Environmental Advisory Committee and Environmental Coordinating Team, City staff, Minneapolis Mayor R.T. Rybak, the Minneapolis City Council, businesses, nonprofits, other organizations and residents working with us to create a sustainable city.

To learn more about the Minneapolis GreenPrint and other sustainability efforts at the City, please visit www.ci.minneapolis.mn.us/sustainability

Climate Change

Reduce Carbon Dioxide Emissions

The science is clear – climate change is real, we are responsible, and it is a threat. 2008 was Earth's eighth warmest year on record, and all 10 of the warmest years on record have occurred since 1997. Carbon dioxide pollution ("greenhouse gas") causes climate change, and transportation and coal-burning power plants are the largest sources of carbon dioxide pollution in the U.S.

Target

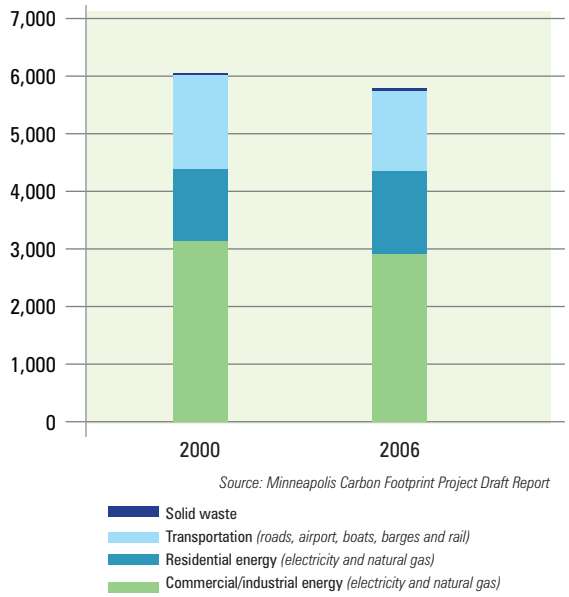
- Reduce carbon dioxide emissions from City operations by 12 percent by 2012 and by 20 percent by 2020.
- Reduce citywide carbon dioxide emissions by 12 percent by 2012 and by 20 percent by 2020.

Trend Analysis

In 2008, the City analyzed greenhouse gas emissions from City operations and from the entire community within the city limits for the first time. Within the city limits, carbon emissions declined 4 percent between 2000 and 2006. Major contributing factors were milder winter weather, more wind-produced electricity and less driving. City operations' emissions data was only available for 2006, so this will serve as the baseline for future data comparisons.

Minneapolis community-wide greenhouse gas emissions inventory

in 1,000 carbon dioxide equivalent tonnes



Saint Anthony Falls in downtown provides enough clean electricity for approximately 13,200 homes annually through a hydropower plant operated by Xcel Energy.

Recent City & Community Activities

- The Minnesota Energy Challenge has more than 6,600 Minneapolis businesses and residents pledging to reduce carbon dioxide emissions compared to 2,500 in 2007 and 700 in 2006. They are committed to saving more than $4.2 million in energy costs annually. www.mnenergychallenge.org
- The City awarded 25 climate change microgrants for activities that encourage immediate action to reduce the carbon footprint. www.ci.minneapolis.mn.us/sustainability/ClimateChangeGrants_home.asp
- City utility billing began offering an easy, online, paperless billing option, saving trees and energy. www.ci.minneapolis.mn.us/utility-billing
- To foster more walkable, community-oriented commercial areas and discourage the use of cars, the City reduced many off-street parking requirements for development citywide and rezoned the 38th Street light rail transit area. www.ci.minneapolis.mn.us/lrtrezoning/tod-haiwatha.asp
- The City tested energy-saving, light-emitting-diode (LED) streetlights for use citywide, installed energy-efficient lighting at the Hilton Parking Ramp and installed a high-efficiency boiler at Parking Ramp A.

Web Links & Resources

City of Minneapolis
Carbon Footprint Project Draft Report
www.ci.minneapolis.mn.us/sustainability/carbon.asp

The Center for Energy and Environment
www.mncee.org

U.S. Environmental Protection Agency (EPA)
Energy Star Program
www.energystar.gov

Xcel Energy
www.xcelenergy.com/mplsconserves

Renewable Energy

Increase the Use of Renewable Energy

In the face of climate change and harmful pollution levels created by our current energy consumption, it is critical to increase our use of renewable energy including solar, wind, biomass and hydropower. Renewable energy contributes to energy security, stable energy pricing, climate change solutions and green jobs. Minnesota regulations require Xcel Energy to obtain 30 percent of its electricity from renewable resources by 2020 – most of it coming from Minnesota-generated wind power.

Target

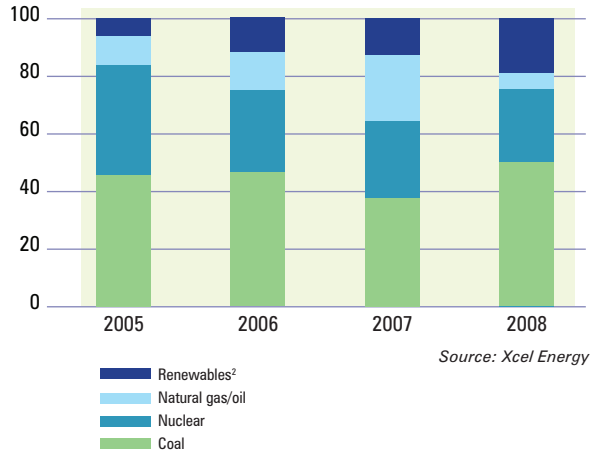
- In City operations, by 2008 increase use of electricity from renewable sources to 10 percent above the renewable electricity supply provided by Xcel Energy.
- Citywide, by 2015 increase renewable energy use to 10 percent above state and federal mandates.

Trend Analysis

Xcel Energy increased the amount of renewable energy used to furnish electricity in Minnesota from 13 percent in 2007 to 19 percent in 2008. A City-owned fire station and two Public Works buildings have solar systems helping to supply their electricity. The City is evaluating other solar options, although this was not enough to meet the 2008 target.

Xcel Energy electric power sources[1]

in percent



1 Includes sources owned by and purchased from other companies

2 Includes 8.0 percent hydro, 7.0 percent wind, 2.0 percent biomass and 0.5 percent other renewables

Innovative Power Systems, Minneapolis

This retrofit, incorporating solar shingles into the design of a Minneapolis business, demonstrates how solar energy can be both practical and visually appealing.

Recent City & Community Activities

- The City received a $200,000 U.S. Department of Energy grant with Saint Paul to increase solar capacity by improving city and state policies and increasing public awareness, training and education. www.solaramericacities.energy.gov/Cities.aspx
- The City began testing solar-powered parking meters in the Dinkytown area.
- The City issued permits for eight new solar installations in 2008, 13 in 2007 and 20 in 2006.
- To better assist residents, City staff received extensive training in sustainable construction practices including solar installations, Minnesota GreenStar and Leadership in Energy and Efficient Design (LEED).
- HOURCAR, a Twin Cities-based car-sharing organization that uses mostly Prius hybrids, recently plugged in its first Minneapolis solar-powered hybrid car at the 46th Street Hiawatha light rail station, where electricity is provided by a 2kW grid-tied solar system on the roofs of nearby buildings. www.HOURCAR.org
- More than 7,650 Minneapolis customers participated in Xcel Energy's Windsource program, buying enough wind-generated electricity for almost 3,300 homes for a year. This ensures additional Minnesota-produced wind power, which helps our economy and environment. www.xcelenergy.com/COMPANY/ENVIRONMENT/Pages/Environment.aspx
- Patrick's Cabaret, now obtains part of its electricity from 36 new solar panels (6.6 kW). www.patrickscabaret.org

Web Links & Resources

- Minneapolis Solar www.ci.minneapolis.mn.us/sustainability/solar.asp
- Minnesota Renewable Energy Society www.mnrenewables.org
- Fresh Energy www.fresh-energy.org

Air Quality

Improve Air Quality Levels

Air quality in Minneapolis is among the best of major metropolitan areas in the U.S. Still, the area has air quality issues that contribute to health problems such as asthma, lung disease and heart disease. Most air pollution comes from cars and trucks releasing fossil-fuel emissions.

Target

- Reduce "moderately unhealthy" days in Minneapolis to fewer than 35 per year by 2015, compared to 191 in 2005.
- Reduce all monitored air toxins to levels within state health guidelines by 2015.

Trend Analysis

The number of "moderately unhealthy" air quality days declined from 178 in 2007 to 166 in 2008. The number of days that had even worse air quality improved from nine days in 2007 to five days in 2008. The number of "good" days improved by 10 percent in 2008 over the previous five-year average. Apart from weather, which has a large impact upon our air quality, contributing factors include a decrease in gasoline and diesel use.

The yearly average levels of benzene, a dangerous air toxin, have been within health benchmarks citywide for the past six years, declining 51 percent since 2003.

Air Quality Index for Minneapolis and the metro area[1]

Year	Good days	Moderately unhealthy days	Unhealthy for sensitive groups days	Unhealthy days
2003	161	191	13	0
2004	187	172	7	0
2005	166	191	5	3
2006	193	169	3	0
2007	178	178	9	0
2008	195	166	5	0

Source: Minnesota Pollution Control Agency

1 Please note: data for a Minneapolis-only air quality index do not exist.

Idling can harm today's fuel injection engines while wasting fuel and polluting our air.

A City inspector uses a new all-electric, no-emissions vehicle.

Recent City & Community Activities

- Purchased 43 new hybrid-electric vehicles, totaling 68, and 131 new E85 flex fuel vehicles for a total of 263 in the City's fleet.[1] Added two all-electric neighborhood vehicles, four electric three-wheel chariots and bicycles for downtown inspections.
- Decreased City operations' overall fuel consumption by 3.8 percent from two years ago. Increased use of cleaner burning E85 by 140 percent. www.ci.minneapolis.mn.us/news/20070523E85FuelStn.asp
- Revised the air quality ordinance to require commercial and industrial spray painting to be performed in fume-filtering paint booths and new coffee roasters to have afterburners.
- Took enforcement action on 72 air quality violations and collected more than $8,000 in fines.
- Adopted an ordinance restricting vehicle idling. www.ci.minneapolis.mn.us/airquality/AntiIdling_home.asp
- Reduced idling times and vehicle emissions by removing "no turn on red" signs at 13 intersections. www.ci.minneapolis.mn.us/traffic/NTOR.asp
- Retrofitted seven heavy-duty diesel trucks, and advocated for retrofitting 62 school buses and six private heavy vehicles through the Minnesota Environmental Initiative's (MEI) Project Green Fleet. www.projectgreenfleet.org
- MEI and Mulroy's Body Shop trained auto body refinishers at Dunwoody Institute in cost-saving, pollution-reducing techniques. www.mn-ei.org/cam/autobody.html

1 The City supports policies, funding and research for the next generation of clean fuels using perennial crops.

Web Links & Resources

Minnesota Pollution Control Agency air quality
www.pca.state.mn.us/air/index.html

City of Minneapolis air quality
www.ci.minneapolis.mn.us/airquality

Minnesota Department of Health air quality
www.health.state.mn.us/divs/eh/air/index.htm

Bikeways

Increase Bicycle Lanes and Trails

Bicycling is good for our health, economy and environment. Nearly 15,000 people bike in the City of Minneapolis on an average spring, summer or fall day. Approximately 25 percent bike year-round, which is remarkable given Minnesota winters. The City encourages bicycling through promotion, education and infrastructure. Minneapolis has an aggressive goal for adding miles of bicycle lanes and trails, and Minneapolis has the highest number of bicycle parking spaces per capita of any city in the U.S.

Target

Add 14 miles of on-street bicycle lanes and 30 miles of off-street trails to the 2004 level for a total of 150 miles of bikeways in the city by 2015.

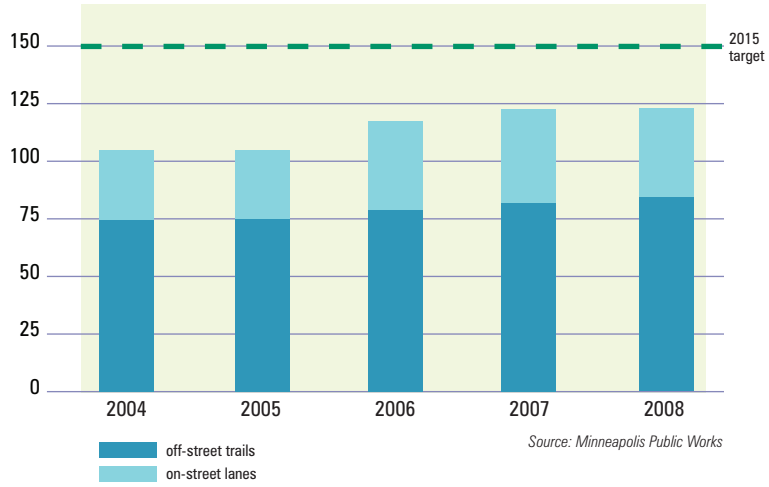
Trend Analysis

In 2008, the city gained one mile of off-street bike trails and 0.9 miles of on-street bike lanes, but lost 1.6 miles of on-street bike lanes due to downtown street reconstruction. Since 2004, eight miles of on-street bicycle lanes and eight miles of off-street trails have been added for a total of almost 123 miles of bikeways.

Bicycling is going up in Minneapolis. The U.S. Census Bureau reported that among the 50 largest U.S. cities in 2007, Minneapolis had the second highest percentage of people biking to work. Of all trips to work, 3.8 percent are on bikes, up from 2.5 percent in 2006. From 2003 to 2007, bicycling rose 50 percent at nine downtown locations. From 2007 to 2008, the number of bicyclists increased 30 percent on the Midtown Greenway (April through June).

Bikeways[1] in Minneapolis[2]

in miles



Source: Minneapolis Public Works

1 Bikeways are multi-use paths, bike lanes and marked shared lanes.

2 The 2004-2007 figures are corrected from last year's report.

The City encourages residents to bike to dinner, work or for other short strips.

Recent City & Community Activities

- Opened the Midtown Bike Center offering bike sales and rentals, parts and repairs, bathrooms, showers, a drinking fountain, and a coffee shop. www.ci.minneapolis.mn.us/bicycles/MidTownBikeCenter.asp
- The Minneapolis Park and Recreation Board completed reconstruction on the existing East River Parkway and St. Anthony Parkway trails.
- Launched the Bike Walk Ambassador program offering bike education, promoting new bike and pedestrian infrastructure projects, supporting work and worship place outreach, and coordinating activities to encourage people to bike more, walk more and drive less. www.bikewalktwincities.org/ambassadors
- Revised zoning codes to require bicycle parking for most development and included incentives for incorporating bicycle or transit facilities in development design.
- Totaled 3,591 publicly accessible bike racks with 15,111 bike parking spaces and 29 locker locations with 249 bike locker spaces citywide in 2007. www.ci.minneapolis.mn.us/bicycles/bikerack-lockers.pdf
- Hosted a multistation bike sharing program sponsored by Humana and Bikes Belong for the Republican National Convention.
- Annual bicycle events include the Minneapolis Bike Tour, Great River Energy Bicycle Festival, and Bike Walk to Work Day.

Web Links & Resources

City of Minneapolis biking information www.ci.minneapolis.mn.us/bicycles/index.asp

Bike Walk Twin Cities www.bikewalktwincities.org

Metro Transit Biking Resources www.metrotransit.org/bike

Online biking forum www.mplsbikelove.com

Downtown Transportation Alternatives

Increase Use of Alternative Transportation into Downtown

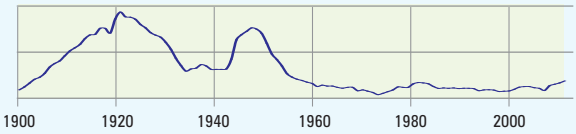
Getting around using transportation other than driving is good for our hearts, lungs and budgets. Today in Minneapolis, alternative transportation includes bussing and riding light-rail transit, bicycling and walking. The City plays important roles in making transit affordable and convenient, promoting its use, and creating dynamic urban corridors that are safe and convenient for pedestrians and bicyclists.

Target

Increase the percentage of people who enter downtown via alternative transportation (bus, light rail, bicycle, walking, carpool) from 55 percent in 2003 to 67 percent by 2013.

Trend Analysis

The total number of people entering downtown via alternative transportation was 55 percent when last measured in 2003. Recent bus, light rail and biking data show increases downtown. In 2008, light-rail transit (LRT) ridership grew 12 percent (in part due to the reopening of the Humphrey Terminal station), and system-wide bus ridership grew 5 percent, resulting in Metro Transit's highest ridership since 1982.

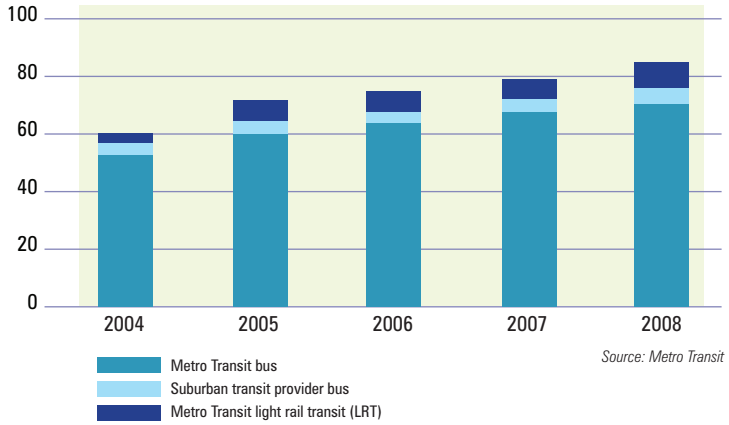


Historic Regional transit service ridership (1900-Present)

Source: Metropolitan Council

Annual regional transit ridership

in millions of rides



Source: Metro Transit

In 2008, light-rail transit ridership grew 12 percent over 2007.

Recent City & Community Activities

- Increased use of downtown Metropass, a discount transit pass, by 15 percent to more than 20,000 users. Increased City employee Metropass use by 27 percent to more than 500 users. www.metrotransit.org/groupDiscProg/metropass.asp
- Registered 1,340 carpools and vanpools for free or discounted parking in City-owned or operated facilities, a decrease from 1,811in 2007.
- Completed Phase I construction of the Marquette Avenue and Second Avenue South Transit Project (MARQ2). This project provides double-width bus lanes, new bus shelters, wider sidewalks, trees, and real-time transit information. www.ci.minneapolis.mn.us/public-works/marq2
- Worked with regional partners to construct the multi-modal transportation improvements associated with Northstar Commuter Rail, the Hiawatha light-rail transit (LRT) extension, and the Twins Ballpark. www.northstartrain.org
- MetroTransit purchased 45 new hybrid electric buses, bringing the hybrid fleet's size to 67 of a planned total of 172 by 2012. www.metrotransit.org/news/stories/04_07_gogreener.asp
- Enrolled 58 new downtown employers in transit programs (Metropass, Transitworks! and GoTo College).
- Downtown commuters registered in carpool, vanpool, or transit pass programs (Metropass and GoTo College) reduced their vehicle miles traveled by almost 29 million miles and carbon dioxide emissions by more than 6,000 tons.

Web Links & Resources

Downtown Minneapolis Transportation Management Organization www.mplstmo.org

Airport Noise

Reduce Airport Noise and the Environmental Impacts of the Airport

The Minneapolis-St. Paul International Airport (MSP) plays an important role in our region's economy and livability. But the airport also changes the environment, producing noise and air pollution, affecting the quality of life for nearby residents.

Target

By 2009, reduce the average noise levels by at least three decibels, the minimum change that is perceptible to the average person's ear, from 2004 levels at all nine monitored locations in Minneapolis.

Trend Analysis

The number of airplane flights at MSP declined by 0.59 percent in 2008, 4.6 percent in 2007 and 10.6 percent in 2006. Total landings and takeoffs in 2008 were 450,044 (approximately 17 percent fewer operations) compared to the peak of 541,093 in 2004. This is largely because of Northwest Airlines and other airlines reducing capacity.

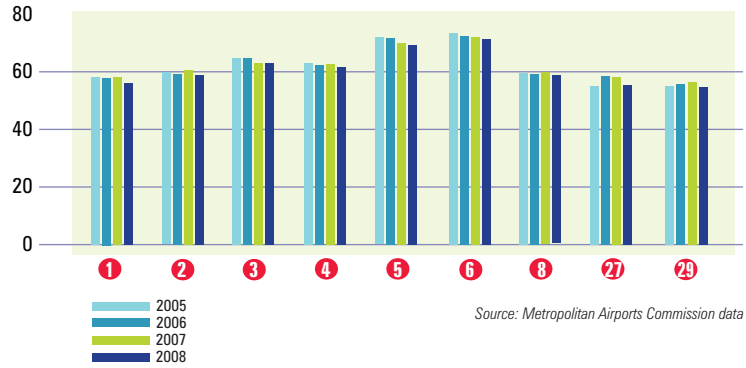
The overall reduction in flights and the continued phasing out of older planes have caused noise levels in Minneapolis to decline slightly at seven of the nine monitors (1, 2, 3, 4, 5, 6 and 27) while two monitors remained essentially the same as in 2004 (8 and 29). Although numbers from the seven monitors suggest improvement, more change is necessary to achieve a three decibel reduction.

Eight of the nine monitors in Minneapolis show at least a 2.5 "day-night level (DNL)"[1] decrease in the noise impact area from 2000 to 2008.

1 Day-night level is the cumulative average annual noise exposure of a 24 hour period with a night time penalty of 10 decibels for operations between 10 p.m. and 7 a.m.

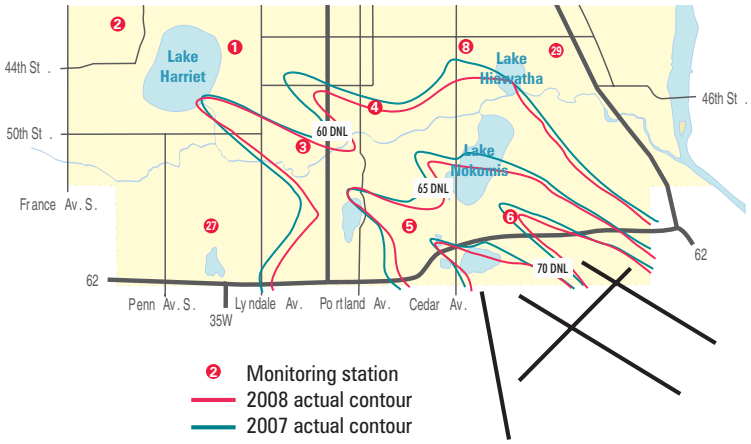
Average noise levels at Minneapolis monitoring stations

in decibels



Source: Metropolitan Airports Commission data

Airport noise monitoring stations in Minneapolis



Source: Metropolitan Airports Commission data

Recent City & Community Activities

- Coordinated with the Metropolitan Airports Commission (MAC) to implement the sound insulation program resulting from the 2007 settlement agreement. Nearly 100 Minneapolis homes impacted by noise levels of 60 to 64 decibels were in various stages of the mitigation program by mid-January 2009. The program reduces sound by five decibels for residents in the highest noise areas. Settlement maps and details can be found on the City's Web site. www.ci.minneapolis.mn.us/airportnoise
- Received bids and selected contractors for Phase 2 of the settlement agreement's insulation program beginning in 2009 for homes in 60, 61 and 62 day-night level areas.
- Advocated with the MAC for abatement measures to manage day-to-day noise at the airport by working with the Noise Management Office and the Noise Oversight Committee.
- Developed an Airport Overlay District and ordinance addressing height limitation zoning, land use safety zoning and noise reduction in impacted areas. www.ci.minneapolis.mn.us/zoning/maps/

Web Links & Resources

Metropolitan Airports Commission
www.mspairport.com/mac

To file a noise complaint call (612) 726-9411
www.macnoise.com/complaint

Residents Opposed to Airport Racket (ROAR) and South Metro Airport Action Council (SMAAC)
www.quiettheskies.org

City of Minneapolis airport noise
www.ci.minneapolis.mn.us/airportnoise

Tree Canopy

No Net Loss to the Urban Tree Canopy

Our urban forest cleans the air, shelters wildlife, catches water runoff, cools our homes and makes our city more beautiful. As in other large cities, however, insects, disease and construction are taking a toll on our trees, decreasing our urban tree canopy. An impending threat is the emerald ash borer. Since its discovery in 2002, this insect has killed more than 40 million ash trees in seven states. In 2008, the emerald ash borer was discovered in Wisconsin – only 300 miles away.

Target

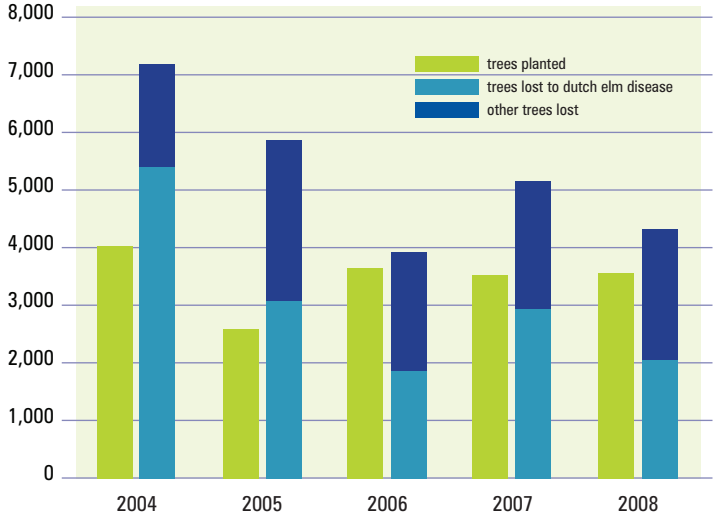
- No net loss to the citywide tree canopy cover by 2015, compared to 26 percent in 2004.
- Plant at least 2,500 trees on public land annually through 2015.

Trend Analysis

The tree canopy, last measured in 2004, covers 26 percent of the city. Since then, more than 15,000 public elm trees have died from Dutch elm disease. Because of their age and large stature, their loss had a disproportionate impact upon the city's tree canopy.

The Minneapolis Park and Recreation Board (MPRB) met the tree planting target for the fourth year in a row by planting 3,589 trees. Since 2003, the MPRB has planted an average of 3,419 trees per year along streets and in parks. In addition, more than 1,175 additional trees were planted by the City and its partners on public and private land in 2008. There has still been a net loss of nearly 9,000 public trees in the city over the past five years.

Trees lost[1] and trees planted on boulevards and in public parks



Source: Minneapolis Park & Recreation Board

1 This includes trees in natural areas that were not planted or maintained by the MPRB such as remote locations at Theodore Wirth Park or Minnehaha Park.

Minneapolis Park & Recreation Board

Elmer the Elm Tree teaches children from the Cityview Performing Arts Magnet School about the benefits of trees.

Recent City & Community Activities

- Provided 1,050 trees to city residents for planting in their own yards through a partnership with Tree Trust, a local nonprofit. www.treetrust.org
- Provided 45 permits to residents requesting to plant a new tree in the city's boulevard.
- In addition to planting trees on boulevards and in parks, the MPRB controlled the spread of oak wilt disease in Eloise Butler Wildflower Garden, pruned thousands of trees, and removed stumps.
- Hosted the City's official Arbor Day celebration at Lake of the Isles where more than 900 school children helped plant 125 trees. www.minneapolisparks.org/default.asp?PageID=986
- Continued a research partnership with the University of Minnesota to find new trees for use as ash tree replacements. A new research partnership was started with Rainbow Treecare to improve tree health. www.tre.umn.edu www.minneapolisparks.org/default.asp?PageID=52&prid=766&SearchID=217799
- Cooperated with the Minnesota Department of Agriculture by serving on the Emerald Ash Borer Planning Task Force and by providing trees that are monitored for the presence of the emerald ash borer.
- Converted a vacant City lot into a productive tree nursery at the Hawthorne Ecovillage. www.northsidehomefund.com

Web Links & Resources

Minneapolis Park & Recreation Board's Forestry Division www.minneapolisparks.org/default.asp?PageID=28

Minneapolis Urban Forest www.ci.minneapolis.mn.us/sustainability/urbantreecanopy.asp

U.S. Department of Agriculture, 2004 UFORE tree canopy study of Minneapolis www.fs.fed.us/ne/syracuse/Data/State/downloads/CityReports/Minneapolisrb166.pdf

USDA, urban tree canopy assessment www.nrs.fs.fed.us/urban/utc/about

Combined Sewer Overflow

Eliminate Combined Sewer Overflows

Heavy rains can fill sanitary sewers beyond capacity and make them overflow into adjoining storm sewers, which then convey stormwater contaminated with raw sewage into the Mississippi River. This is called a combined sewer overflow (CSO) and it can cause health and environmental problems.

Target

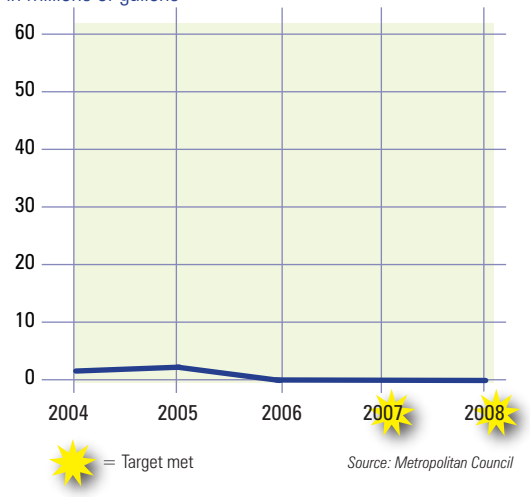
Eliminate combined sewer overflows by 2014.

Trend Analysis

The City's earliest sewers were designed for both sewage and rainwater. The City began building new systems separately in the early 1900s and began separating combined sewers in the 1960s. Most of the connections that remain to be separated are the toughest to locate or resolve. Upgrades to the sewer system in Minneapolis have resulted in a dramatic reduction in overflows, and in 2008 for the second year in a row, there were no overflow events. While this shows very good progress gained by City and Metropolitan Council projects, it is likely also due to the lack of heavy precipitation or a water table generally lower than normal.

Combined sewer overflows into the Mississippi River

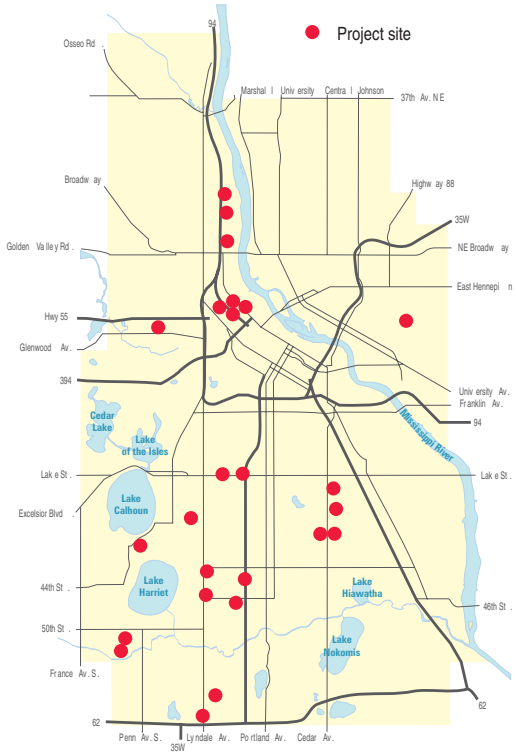
in millions of gallons



year	millions of gallons
2002	1.02
2003	7.96
2004	2.21
2005	3.07
2006	0.43
2007	0.00
2008	0.00

Source: Metropolitan Council

2008 projects separating sanitary and storm sewers



Recent City & Community Activities

- In the past, it was permissible to connect residential downspouts and open standpipes to the sanitary system. These "rainleader" connections are no longer allowed in Minneapolis, and 78 percent of the residential properties required to disconnect rainleaders from the sanitary sewer system have done so. Under the second year of a two-year grant by the Mississippi Watershed Management Organization, materials were provided to 230 homeowners to redirect rainwater onto their lawns.
  www.ci.minneapolis.mn.us/cso/rainleader-ordinance.asp
- Some property owners are managing stormwater onsite by routing newly separated rainleader water to rain gardens. This strategy improves water quality in Minneapolis lakes, streams and the Mississippi River, and it can save businesses and residents money if they qualify for a Stormwater Utility Fee credit.
  www.ci.minneapolis.mn.us/stormwater/fee
- Installed meters in the area served by one of the major "interceptor" sewers in the city. An interceptor sewer is a large pipe that brings waste from smaller pipes to the wastewater treatment plant. The meters are part of an ongoing effort to identify the remaining clear water that is entering the sanitary sewer system. Clear water is primarily stormwater that should go to the stormwater system, not the sanitary sewer system. Removing clear water from the sanitary sewer system is essential for eliminating overflows.

Web Links & Resources

City of Minneapolis
combined sewer overflow information
www.ci.minneapolis.mn.us/cso

City of Minneapolis
storm and surface water management
www.ci.minneapolis.mn.us/stormwater

City of Minneapolis rainleader ordinance
www.ci.minneapolis.mn.us/cso/ordinance.asp

Permeable Surfaces

Increase Permeable Surfaces in Minneapolis

Taking a lesson from nature, the City is working to manage rainwater where it falls. By allowing rain and melting snow to soak into the ground close to its source, the City reduces the rate and amount of water running off, makes the runoff cleaner, replenishes groundwater and reduces erosion.

Target

- If feasible, measure the baseline amount of rainwater and melting snow runoff that leaves the city or a pilot area, then set targets for reducing it.
- By 2015, increase the number of large stormwater management amenities (such as ponds and wetlands) that treat multiple properties and large areas to 50, and increase the number of smaller amenities (such as rain gardens) that treat single properties to 500.
- By 2015, increase the number of large underground stormwater treatment chambers (that treat multiple properties) to 165 and the number of small underground stormwater treatment chambers (that treat single properties) to 200. These include grit chambers and swirl separators.
- By 2015, increase the number of green roofs to 150.

Trend Analysis

Progress toward original targets exceeded expectations, so new aggressive targets were set in 2007. The 2015 target for private rain gardens and other small area stormwater amenities has also been exceeded, so a new target will be set in 2009 once an inventory is completed.

The City has made progress increasing permeable surfaces by using the Stormwater Management Ordinance, the Stormwater Utility Credit Program, and community outreach programs.

Stormwater management facilities

in cumulative totals, includes private residential, commercial and public projects

	2005	2006	2007	2008	2015 Target
Large area amenities (such as ponds and wetlands)	20	28	28	29	50
Small area amenities (such as rain gardens)	327	753	776	832	500*
Large area underground treatment chambers	128	142	149	150	165
Small area underground treatment chambers	93	127	143	158	200
Green roofs	29	35	39	39	150

Source: Minneapolis Public Works

* The target for small area amenities will be increased after completion of a new, comprehensive inventory.

= target met

This Minneapolis rain garden was installed by a resident trained at Metro Blooms workshop. Rain gardens reduce the rate and amount of runoff, improve water quality, promote stormwater awareness, and add habitat and visual interest.

Recent City & Community Activities

- Trained 578 Minneapolis residents how to design and install rain gardens at 10 workshops held by Metro Blooms. www.metroblooms.org
- Completed a new green roof on the historic City Hall and Courthouse building in partnership with Hennepin County, which owns the building jointly with the City. Installed plants and a landscaping system that will allow the plants to thrive on an approximately 5,800-square-foot area. This project will save energy and reduce stormwater runoff from the rooftop. www.municipalbuildingcommission.org/Green_Roof2.html
- Under the City's permit review process, more than 50 projects for managing stormwater were implemented on 30 large construction projects.
- Partnered with the Mississippi Watershed Management Organization to film an educational stormwater and water quality DVD designed for non-traditional and non-English speaking Minneapolis residents, presented in four non-English languages. It will be released in 2009.

Web Links & Resources

Minneapolis Stormwater and Surface Water Management www.ci.minneapolis.mn.us/stormwater

Minnesota Pollution Control Agency Stormwater Manual, Chapter 12, best management practices www.pca.state.mn.us/water/stormwater/stormwater-manual.html

Metro Blooms www.metroblooms.org

Minnesota Water – Let's Keep It Clean www.cleanwatermn.org

Minnesota Green Roofs Council www.mngreenroofs.org/image/tid/2

Water Quality

Improve the Water Quality of Lakes, Streams and the Mississippi River

As the City of Lakes, Minneapolis is known for its lakes and waterways. City residents and visitors enjoy swimming, boating, fishing and walking along the lakeshores and riverbanks. Keeping our lakes, streams and rivers clean is critical to a healthy urban environment and safe recreation. Practices that manage stormwater to keep pollutants out of our waterways include rain gardens, pervious pavers and wetland areas.

Target

Water quality is measured using the Trophic State Index (TSI). The TSI measures water quality based on clarity, phosphorus level and the amount of algae. A lower TSI means clearer water.

By 2014, keep Trophic State Index (TSI) levels at or below:

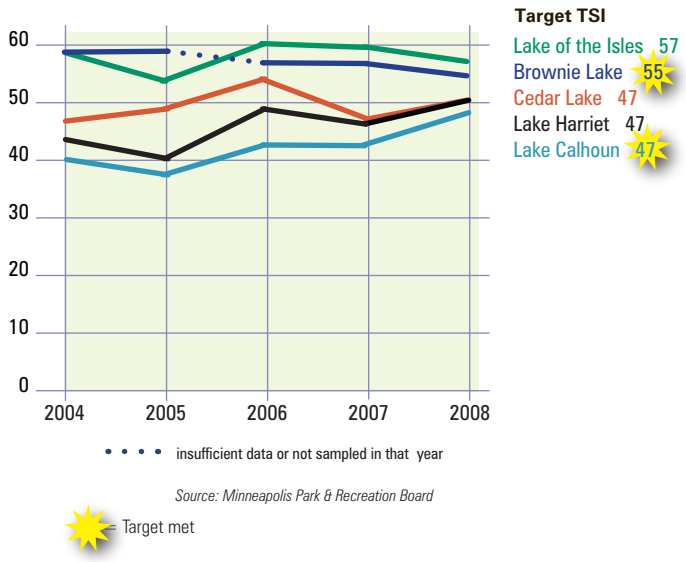
Brownie Lake	55 TSI	Lake Harriet	47 TSI
Lake Calhoun	47 TSI	Lake of the Isles	57 TSI
Cedar Lake	47 TSI		

Trend Analysis

Lake Calhoun remained within the TSI goals for 2014 for the fourth year in a row. Brownie Lake met the target for the first time. Cedar Lake, Lake Harriet and Lake of the Isles did not reach their targets. The TSI can vary from year to year due to a number of factors – climate, timing of rain, wind direction, temperature, aquatic plants, fish, alum treatment, watershed loading and many others. Lake Nokomis' and Wirth Lake's Total Maximum Daily Loads for phosphorus are being determined, and then their TSI targets will be set.

Water quality of Minneapolis lakes

in Trophic State Index (TSI) units



Minneapolis Park & Recreation Board

A barley straw installation project helps control algae in Powderhorn Lake.

Recent City & Community Activities

- Improved treatment of stormwater runoff by adding rain gardens and an underground treatment unit to the new parking area at East River Flats Park.
- Built a new pervious parking area at North Mississippi Park.
- Completed the new rain gardens and pervious paving demonstration project in the Wabun area at Minnehaha Park.
- Completed three stabilization projects including the Mississippi River bluffs between 38th and 42nd streets, the Mississippi River shorelines between Plymouth and Broadway avenues, and the banks of Minnehaha Creek.
- Improved stormwater infrastructure and erosion control near Brownie Lake.
- Removed sediment from the Lake Harriet outflow area and improved a wetland treatment area that filters stormwater before it enters the lake.
- Issued permits to seal five residential wells to prevent potential groundwater contamination.
- Picked up a total of 22,500 pounds of trash at 36 sites with the help of 2,859 volunteers as part of the annual Earth Day Watershed Cleanup activities.
- Participated in the first Lake Street water festival produced by the Heart of the Beast Theater.

Web Links & Resources

Minneapolis Park & Recreation Board annual report
www.minneapolisparks.org/default.asp?PageID=942

Minnesota Department of Natural Resources Lake Finder
www.dnr.state.mn.us/lakefind/index.html

Minnesota Pollution Control Agency Water Resources
www.pca.state.mn.us/water/index.html

Minneapolis Stormwater Utility Fee
www.ci.minneapolis.mn.us/stormwater/fee

Green Jobs

Growing a Green Economy

This new indicator reflects the City's intention to capture and measure the benefits of the emerging green economy. Investments in solving critical economic and environmental challenges provide strategic job opportunities for our future in areas such as green construction, transportation, food production, energy efficiency, conservation and renewable energy.

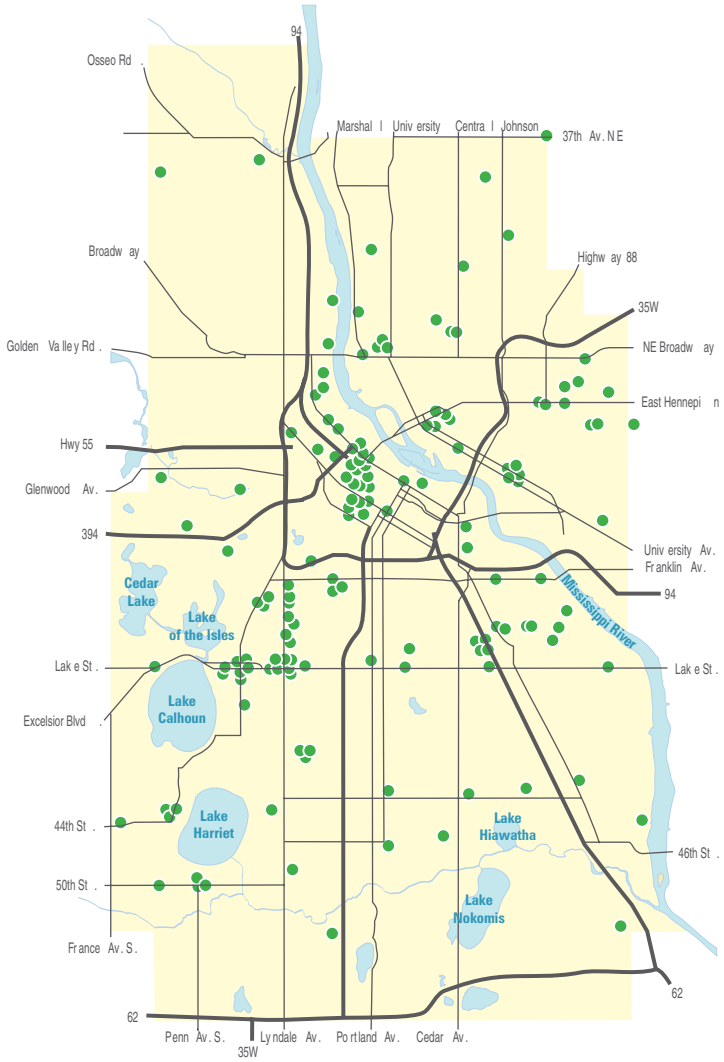
Target

A target has not yet been established as staff are still refining the definition of a green business/job and gathering baseline information on the local green economy.

Trend Analysis

The definitions of green businesses and "green-collar" jobs include activities in industries that reduce environmental impact and resource consumption. Examples include renewable energy *(solar, wind, geothermal, hydropower, biomass and biofuels)*, green products *(green building, sustainable transportation and consumer and industrial products)*, green services *(recycling, green retail, professional services supporting green industries such as sustainable architecture/design, renewable energy finance, legal, etc.)*, and environmental conservation *(energy efficiency, water conservation and treatment, sustainable land management landscaping and local/organic farming)*. Green collar jobs also provide a living wage and career ladder to move low-income workers into higher skilled occupations.

Minneapolis green business locations



Recent City & Community Activities

- Mayor Rybak co-chaired the Mayors' Green Manufacturing Initiative in partnership with the national Blue-Green Alliance, the City of Saint Paul and more than 60 business, labor, economic development, state, university, nonprofit and public stakeholders. The collaborative developed recommendations for growing green manufacturing businesses and green-collar jobs in the Twin Cities. www.ci.minneapolis.mn.us/sustainability/docs/MakingItGreen-Report2008.pdf
- The City Council passed a resolution supporting the Minneapolis Good Jobs – Green Jobs Initiative.
- Participated in the Minnesota Green Jobs Task Force charged with developing a statewide action plan to grow the green economy. www.mngreenjobs.com
- Researched, compiled and mapped more than 150 green businesses located within Minneapolis.
- Co-hosted a Green Business Networking Event with the Minneapolis Chamber of Commerce for local companies that manufacture green products and provide green services.
- Minneapolis has four Leadership in Energy and Efficient Design (LEED) certified buildings and 46 registered LEED projects. www.usgbc.org

Web Links & Resources

Blue-Green Alliance
www.bluegreenalliance.org

Making It Green, report on green manufacturing
www.ci.minneapolis.mn.us/sustainability/docs/MakingItGreen-Report2008.pdf

Minneapolis Community Planning and Economic Development
www.ci.minneapolis.mn.us/cped

The Minneapolis Plan for Sustainable Growth
www.ci.minneapolis.mn.us/cped/comp_plan_update.asp

Eco metro
www.ecometro.com/twincities

More than 6,600 Minneapolis residents and businesses have taken the

Minnesota Energy Challenge and pledged to reduce their carbon footprint.
Join the effort and start reducing carbon dioxide emissions in your own daily life.

For more information on these and other simple steps

www.ci.minneapolis.mn.us/sustainability **www.mnenergychallenge.org**

Minneapolis
City of Lakes