



Minneapolis
greenprint

2011 Environmental Report

Minneapolis



greenprint

The sixth annual Greenprint reports on efforts by the City of Minneapolis to protect and enhance its urban environment. An enriched urban environment attracts investment and lays the foundation for economic development and job growth – and in turn sustains a more livable community. Results-driven management practices are at the heart of City operations and allow for continual evaluation, improvement and progress toward economic, social and environmental sustainability.

Key accomplishments in 2010 include:

- 600 kW of solar photovoltaic capacity on the roof of the Minneapolis Convention Center, the largest solar electricity array in the Upper Midwest.
- The Nice Ride bike share program – the largest in the country when it launched in June – counting more than 100,000 rides by season's end.
- New codes, programs and policies to improve access to local, healthy food including leasing out five City-owned lots for community gardens and launching Electronic Benefits Transfer (EBT) at two more farmers markets.

Challenges persist despite our many accomplishments. After three years with no combined sewer overflows, the city experienced two in 2010. A tree pest called emerald ash borer – first detected in Minneapolis in 2010 – threatens 20 percent of the city's urban forest.

The City is committed to continuing to work for a sustainable future. In 2011, key projects will include:

- Using a federal grant to evaluate alternative transit improvements, including streetcar and enhanced bus service, on Nicollet and Central avenues with the goal of increasing transit ridership and catalyzing economic development.
- Adding more renewable energy sources, including hydro, solar and geothermal.
- Leveraging federal stimulus dollars to provide loans and grants to make City buildings and our homes and businesses more energy efficient.

Thank you to all of those who helped with this report. Special thanks go to the Minneapolis Citizen Environmental Advisory Committee; Environmental Coordinating Team; City staff; Mayor R.T. Rybak; the City Council; the Minneapolis Park and Recreation Board; and all city residents, businesses, nonprofits and other organizations engaged in the important work of preserving and improving the livability of our city.

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



Minneapolis *greenprint*

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Climate Change

Reduce Carbon Dioxide Emissions

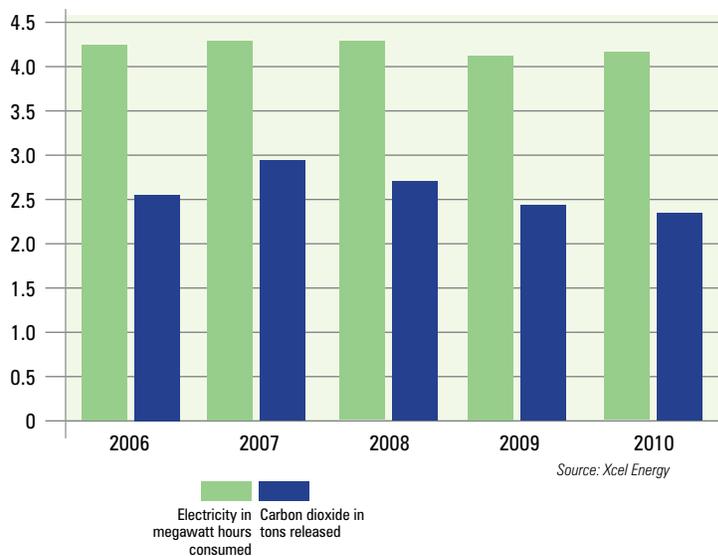
The science is clear. Climate change is real, we are responsible and it is a threat. In the U.S., transportation (primarily personal vehicle use) and coal-burning power plants are the largest producers of carbon dioxide, the greenhouse gas that contributes most to climate change. The past decade was the warmest on record, and 2010 was tied with 2005 as the second warmest year since recording began in 1880.

Target

- Reduce carbon dioxide emissions from municipal operations by 1.5 percent annually.
- Reduce citywide carbon dioxide emissions by 17 percent by 2020 using 2006 as a baseline.

Citywide electricity consumed and carbon dioxide emissions released

in millions of units



The new Minneapolis Hiawatha Maintenance Facility is LEED Platinum certified and includes many energy-saving measures.

www.ci.minneapolis.mn.us/public-works/HiawathaFacility_home.asp

Trend Analysis

Electricity use by City-owned buildings declined 2 percent from 2008 to 2010 while natural gas use declined 10 percent. Throughout Minneapolis, electricity and natural gas usage was lower in 2010 than in 2008. Electricity production is a large source of carbon dioxide pollution, and weather and the local economy greatly affect electricity use. Eliminating unnecessary energy use and using necessary energy more conservatively are priorities for the City. To meet its targets, the City must also shift its electricity sources to renewable resources.

Recent City & Community Activities

- Using American Recovery and Reinvestment Act funds, the City awarded its fourth year of climate change microgrants to engage people in innovative, immediate energy- and money-saving actions. www.ci.minneapolis.mn.us/sustainability/ClimateChangeGrants2010.asp
- The City partnered with Xcel Energy and CenterPoint Energy to reward contractors who install energy-efficient equipment for their customers. www.ci.minneapolis.mn.us/ccs/trades.asp
- The number of LEED-certified nonresidential buildings doubled in Minneapolis from 2009 to 26 buildings. Eight homes were also certified, and 50 more projects under way are registered. LEED is a national third-party verification for high green building standards. www.usgbcmn.org
- The Minneapolis Public Housing Authority (MPHA) received more than \$415,000 in rebates from CenterPoint Energy for installing about 100 high-efficiency boilers and 60 domestic hot water heaters in its high-rise buildings as part of a \$33.6 million energy conservation project.
- The City partnered with Xcel Energy, CenterPoint Energy, Community Action of Minneapolis and the MN Housing Fund to promote energy efficiency rebates, weatherization funds and low-interest financing to more than 19,500 rental license holders. www.ci.minneapolis.mn.us/inspections/docs/Rental_Property_Utility_Rebate_Info.pdf

Web Links & Resources

Minnesota Pollution Control Agency
www.pca.state.mn.us/index.php/topics/climate-change/climate-change.html?menuid=&redirect=1

Minnesota Center for Energy and Environment
www.mncee.org

Xcel Energy www.xcelenergy.com/mplsconserves

CenterPoint Energy www.centerpointenergy.com/services/naturalgas/residential/MN

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 use more renewable energy including solar, wind, biomass and hydropower. Renewable energy contributes to energy security, stable energy pricing, climate change solutions and green jobs.

Target

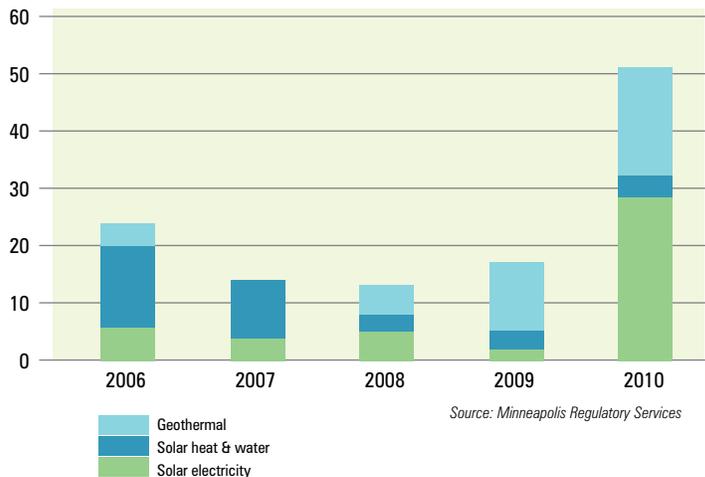
- In municipal operations, increase renewable electricity to one megawatt by 2014.
- Citywide, increase renewable energy use to 10 percent above Xcel Energy's renewable power mix by 2014.

Trend Analysis

The Minneapolis Convention Center added a 600 kW solar electric system in 2010, the fourth solar electric system on a City building. In addition, the City has installed a solar air exchanger and a geothermal system and purchases electricity through Xcel Energy's Windsource program.

In 2010, the City issued the highest number of renewable systems permits ever: 28 solar photovoltaic (electricity) permits (compared to two in 2009), four solar thermal permits and 19 geothermal system permits – all increases from 2009.

Number of renewable energy projects



The Minneapolis Convention Center's 2,600 solar panels comprise the largest solar electricity installation in the Upper Midwest.

www.minneapolisconventioncenter.com/about/sustainability.asp

Recent City & Community Activities

- The large geothermal system installed at the new Minneapolis Public Works Hiawatha Maintenance Facility will provide 100 percent of the heating and cooling needs of the facility under normal conditions. It is expected to pay for itself in about five years. In addition, the facility is purchasing Minnesota-made wind power through Xcel Energy's Windsource program for 35 percent of its electricity needs. www.ci.minneapolis.mn.us/public-works/HiawathaFacility_home.asp
- Solar panels were installed at four Minneapolis Public Schools through a grant from the Walmart Foundation Solar School program, which focuses on incorporating solar energy lessons into the curriculum.
- In October, the annual self-guided, free Minnesota Annual Solar Tour showcased Minneapolis homes, businesses and institutions that use solar energy. <http://mnrenewables.org/2010-solar-tour-sites>
- As part of a U.S. Solar America Cities grant, the City streamlined the permit process and now has some of the lowest solar permitting fees in the state. www.ci.minneapolis.mn.us/mdr/docs/Solar%20Systems%20-%20Residential%20Check%20List.pdf
- Most solar installations in the city took advantage of incentives including Xcel Energy's Solar Rewards and/or Minnesota Bonus (for Minnesota-made solar panels). www.xcelenergy.com/solar
- More than 6,500 Minneapolis customers participated in Xcel Energy's Windsource program, buying enough wind-generated electricity for 7,064 homes a year. www.xcelenergy.com/windsources

Web Links & Resources

Minneapolis goes solar
www.ci.minneapolis.mn.us/sustainability/solar.asp

Minnesota Renewable Energy Society
www.mnrenewables.org

Minnesota Office of Energy Security information on renewable energy www.energy.mn.gov

Improve Air Quality Levels

Air quality in Minneapolis is among the best of large 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 fossil fuel combustion for transportation and electricity.

Target

- Reduce air pollution in the Minneapolis area to health-based levels recommended by the Clean Air Scientific Advisory Committee (CASAC) of the U.S. Environmental Protection Agency (EPA).
- Reduce all monitored air toxins to levels within state health guidelines by 2015.

Trend Analysis

The 2010 Minnesota Pollution Control Agency is air monitoring results showed a continued improvement in air quality. However, in 2006, the EPA reduced the fine particulate matter (PM 2.5¹) National Ambient

Air Quality Standard. Minneapolis met the new standard in 2010, but on a three-year average using the new standard, the entire metropolitan area exceeded it. No action is expected at this time as the EPA is in the process of again revising the standard.

Ozone² concentrations were higher in 2010 than in 2008 and 2009. However, the summer of 2010 was considerably warmer than the previous two summers. Compared to 2007, which was closer to historical averages, the ozone concentrations are continuing to decline.

With the exception of formaldehyde, all monitored air toxins in Minneapolis have followed a downward trend in concentrations and are below state health guidelines. The City of Minneapolis is currently meeting its sustainability target for air toxics.

¹ PM 2.5 refers to fine particles that are 2.5 micrometers in diameter and smaller that can pass through the throat and nose and enter the lungs, having serious health effects.

² Ozone is an air pollutant in the lower atmosphere that creates smog and has harmful effects on respiratory systems and plants

Metro area ozone⁴ and Minneapolis particulate matter (PM) 2.5¹
number of days meeting CASAC recommended levels

	Met CASAC ozone levels	Exceeded CASAC ozone levels	Met CASAC PM 2.5 levels	Exceeded CASAC PM 2.5 levels
2006	145	38	360	5
2007	150	33	355	8
2008	165	18	355	9
2009	172	11	358	7
2010	167	16	358	7

Source: Minnesota Pollution Control Agency

⁴Based on Minnesota’s annual 183-day ozone season from April 1 to Sept. 30

Recent City & Community Activities

- Investigated 266 air quality complaints, took enforcement actions on 35 air quality violations and levied \$1,000 in fines.
- Purchased a photoionization detector to help investigate air quality complaints by measuring airborne contaminants in real time.
- With support from City staff, Minneapolis-based Boyer Ford became the first dealership of a major automobile company to sell full-speed, all-electric vehicles on a Minnesota state contract. These vehicles have no tailpipe emissions, reducing both VOC³ levels and ozone formation.
- Cleaner fuels and increased fuel efficiency reduced the levels of benzene, a dangerous air toxin, by 29 percent since 2003.

³ Volatile organic compounds are carbon compounds that evaporate at everyday temperatures and may have short-and long-term adverse health effects.

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.html
- Clean Air Scientific Advisory Committee <http://yosemite.epa.gov/sab/sabpeople.nsf/WebCommittees/COUNCIL>



Metro Transit

Rail transit keep cars off the road, improving air quality in the city.

Prevent, Reduce, Reuse and Recycle

Economic activity and daily living produce materials that are classified as waste. Limiting consumption of natural resources to levels that the planet can manage, processing waste by recycling, and converting waste to energy are priorities for the City. Most of the waste in Minneapolis is from the packaging of purchased goods.

Target

- Increase recycling and source-separated organics (large-scale composting) of discarded waste tonnage to 50 percent (10 percent of it composting) by 2013 from 35 percent in 2008.
- Reduce the number of households with more than one garbage cart by 50 percent by 2013 (from 22 percent in 2008).
- Increase the percentage of Minneapolis residents using the smaller garbage carts to 25 percent by 2013 (from 4 percent in 2008).
- Expand the source-separated organics composting program by 2013.

Trend Analysis

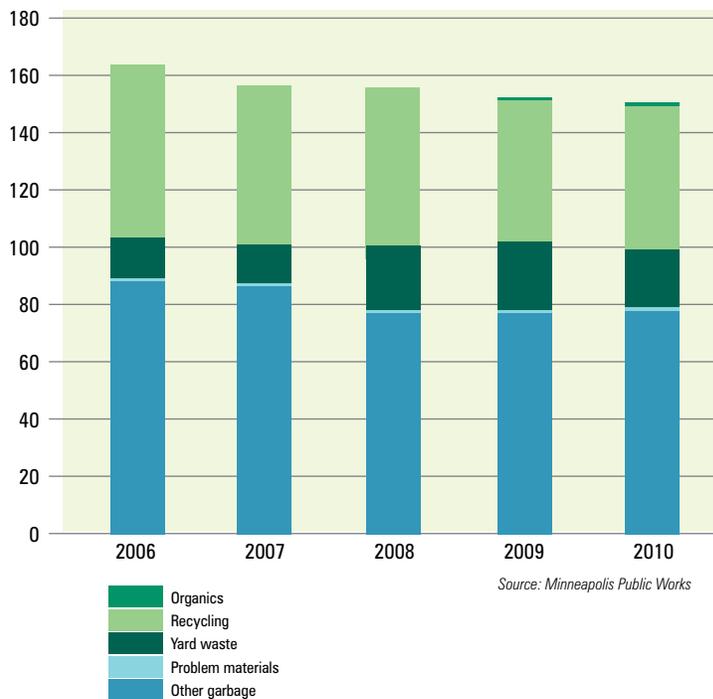
Waste generation in Minneapolis continues to decrease significantly, down 11.4 percent from 2005 and down 1.8 percent from 2008.

In Minneapolis, the rate of recycling declined from 34.9 percent in 2009 to 33 percent in 2010. Composting – including source-separated organics and residential yard and street waste – declined from 15.6 percent in 2009 to 14.3 percent in 2010.

The percentage of Minneapolis residents using the smaller garbage carts declined to 3.56 percent. The number of large carts per household is slightly higher than in 2008 with an average of 1.09. The City increased the large cart disposal fee by 25 percent while maintaining the small cart fee at \$2 per month to encourage residents to create less waste.

Residential waste collected in the city

in thousand of tons



Recent City & Community Activities

- Organizations and companies can now conduct zero waste events thanks to a new organics cart rental program. The program launched at the 2010 Aquatennial Beach Bash. www.ci.minneapolis.mn.us/solid-waste/container-rental-guideline.asp
- The source-separated organics recycling program was expanded from the Linden Hills and East Calhoun neighborhoods to three garbage routes in the eastern portion of the city.
- 750.55 tons of electronics were collected from residents for recycling in the U.S. Minneapolis continues to be the only City in the country to accept electronics from its residents at no additional charge.
- The City continues to partner in East Side Co-op's pilot program for collecting and recycling plastics #1 – #7.

Web Links & Resources

- City of Minneapolis Solid Waste and Recycling www.ci.minneapolis.mn.us/solid-waste/index.asp
- Clean City Minneapolis www.ci.minneapolis.mn.us/solid-waste/clean-city.asp
- Minnesota Pollution Control Agency 2010 Pollution Prevention Report www.pca.state.mn.us/publications/lrp-p2s-2sy10.pdf

Biking

Increase Biking and Bikeways

The City encourages bicycling for all residents by building and improving bikeways and providing education. Bicycling provides a number of health, environmental, financial and traffic benefits, and it is one of the easiest ways to get around the city.

Target

- Increase bikeways (on-street lanes and off-street trails) from 123 miles in 2008 to 178 miles by 2015.
- Increase residents' trips to work on bicycle to 6 percent by 2012 and 7 percent by 2014.¹
- Increase the number of cyclists in the bike 2007 count² 30 percent by 2011 and 60 percent by 2014.

¹ This is also known as the "bicycle commute mode share."

² At the locations of 2007 bike counts.

Trend Analysis

In 2010, 2.2 miles of on-street bike lanes were added, including lanes for bicyclists only and marked shared lanes. Since 2000, 34 total miles of bikeways have been added. The most growth has occurred on streets, with 19 additional miles.

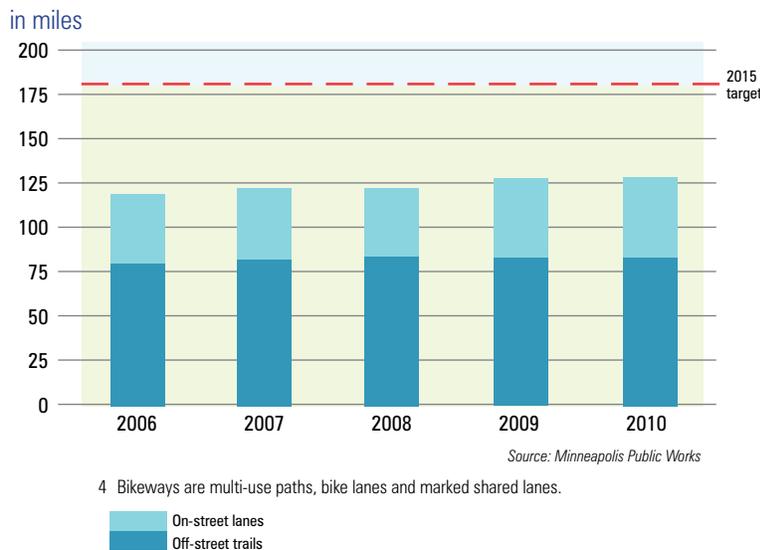
Of the 50 largest U.S. cities³, Minneapolis has the second highest percentage of people biking to work. In 2009, residents made 3.9 percent of all trips to work on bike, up from 1.9 percent in 2000.

Minneapolis also has the highest number of bicycle parking spaces per capita of any city in the country.

The count of bicycle traffic at 30 citywide locations was 27,580, a 4 percent decrease from 28,850 in 2009 and a 21 percent increase over the 2007 count of 22,770.

³ U.S. Census Bureau

Bikeways⁴ in Minneapolis



The bike share program implemented in 2010 is a partnership with the City of Minneapolis, Bike Walk Twin Cities, Blue Cross and Blue Shield, and Nice Ride Minnesota.

Recent City & Community Activities

- Minneapolis was named America's best bike city in 2010 by *Bicycling Magazine*.
- The Nice Ride bike program was the nation's largest when it launched in June and took people on more than 100,000 rides in 2010. www.niceridemn.org
- Minneapolis added bike lanes on many major streets, painted its first green sharrows (shared use lane markings) on Hennepin Avenue, reopened Nicollet Mall to bicyclists and began construction on the Cedar Lake Trail.
- Installed 1,676 new bicycle parking spaces.
- Completed the Minneapolis Bicycle Design Guidelines – which provide staff with guidance when designing bicycle facilities – and the Central Avenue Bicycle Study.
- Partnered with Minneapolis Public Schools to develop bicycle and pedestrian safety curriculum as part of Transportation Safety Week.
- The Bike Walk Ambassadors reached more than 7,000 participants in Bike Walk Week and started a new youth ambassador program in partnership with the Minneapolis Park and Recreation Board (MPRB). www.ci.minneapolis.mn.us/bicycles/ntp-bikewalk-ambassadors.asp
- Trained City employees on commuting basics and offered an on-road downtown course teaching best practices for street riding, safety, routes into downtown, bicycle maintenance and repair, and parking.

Web Links & Resources

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

Bike sharing program www.niceridemn.com

Bike Walk Twin Cities www.bikewalktwincities.org

Metro Transit biking resources www.metrotransit.org/bike

Downtown Transportation Alternatives

Increase Use of Alternative Transportation into Downtown

Using transportation other than driving is good for our health, budgets and environment. Alternative transportation options include taking the bus or train, carpooling, bicycling and walking. The City plays an important role in making transit affordable and convenient, creating dynamic urban corridors that are safe and accessible for pedestrians and bicyclists, and promoting alternative transportation.

Target

Increase the percentage of people who enter downtown via alternative transportation (busing, riding trains, carpooling, bicycling and walking) from 55 percent in 2003 to 67 percent by 2013.

Trend Analysis

Transit ridership in the region rebounded in 2010 after a decline in 2009. Light-rail transit (LRT) ridership grew by 6 percent, and systemwide bus ridership grew by less than 1 percent. The total number of people entering downtown via alternative transportation was last measured in 2003.

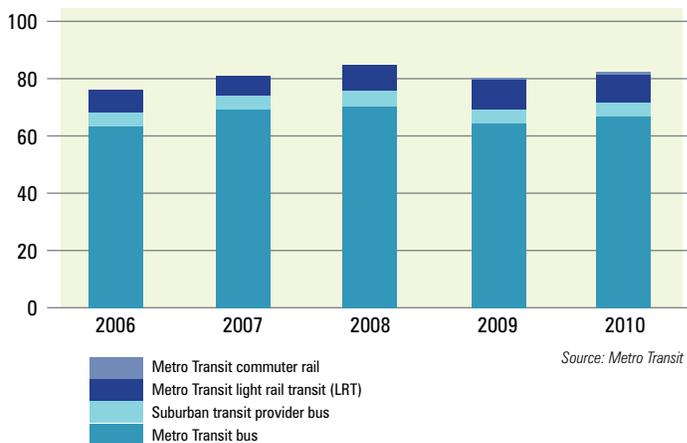


Historic regional transit service ridership (1900 to 2010)

Source: Metropolitan Council

Annual regional transit ridership

in millions of rides



Source: Metro Transit

Downtown jobs

2005	2006	2007	2008	2009
136,165	139,127	135,713	134,782	131,446

Source: Minnesota Department of Employment & Economic Development (DEED)



Metro Transit runs only hybrid electric buses on Nicollet Mall.

Recent City & Community Activities

- The new side-by-side bus-only lanes on Marquette and Second avenues, opened in late 2009, carried nearly 1,400 bus trips in 2010, an increase from 1,000 daily bus trips in 2008. Buses travelled twice as fast during the peak hour in 2010 than they did in 2008, and ridership on routes using Marquette and Second avenues grew 4 percent in 2010.
- Metro Transit completed the conversion of Nicollet Mall buses to 100 percent hybrid-electric vehicles and moved all express bus routes from Nicollet Mall to Marquette and Second avenues in March, reducing peak hour bus volumes on Nicollet Mall by 35 percent. A free ride service on some Nicollet Mall buses also began in March. This service generated an estimated 325,000 rides in 2010 and increased total rides within the downtown fare zone from 94,000 in 2009 to nearly 400,000 in 2010.
- Nearly 430,000 Twins fans rode Hiawatha Line light-rail trains to games during the inaugural season at Target Field – an average of nearly 5,200 fans per game or 13 percent of the 3.3 million who attended the 83 home games.
- Opened a new bus transit station on I-35W at 46th Street, the first of its kind for the Twin Cities. The new station is between the northbound and southbound lanes, which allows buses to pick up and drop off customers without leaving the freeway.
- The total number of downtown Metropass users grew by 14 percent to 23,950 users, while City employee Metropass use declined by 9 percent to 470 users.
- Registered 1,264 carpools and vanpools for free or discounted parking in municipal parking facilities, a 14 percent decrease from 2009.

Web Links & Resources

Downtown Minneapolis Transportation Management Organization www.mplstmo.org
 Metropass www.metrotransit.org/metro-pass.aspx

Airport Noise

Reduce Airport Noise and the Environmental Impacts of the Airport

The Minneapolis-St. Paul International Airport (MSP) continues to be one of the 20 busiest airports in the U.S. and one of the 30 busiest airports in the world (measured by the number of passengers). MSP provides global access to a significant number of business and leisure travelers in the area, but it also impacts the environment, producing noise and air pollution that affect the nearby residents' quality of life.

Target

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

Noise levels in Minneapolis have declined at all nine monitors thanks to overall reductions in flights

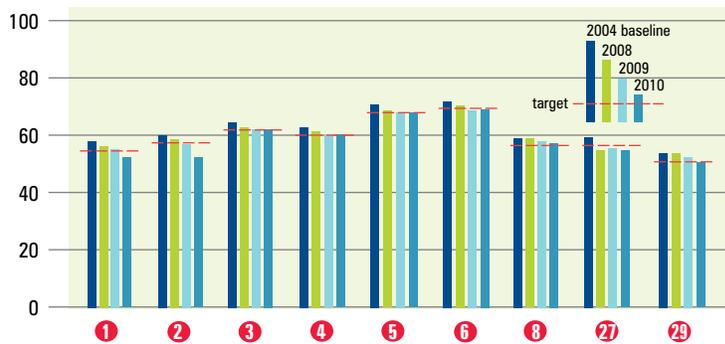
and airlines continuing to phase out older planes. Six of the nine monitors indicate a reduction of at least three DNL with an average reduction at all nine monitors of approximately 3.9 DNL. While the numbers clearly show improvement, long-term expectations are that noise levels will increase again as air traffic increases.

The number of flights at MSP grew about 1 percent in 2010 following declines every year from 2006 to 2009 but the number of passengers increased by almost 1.5 percent over 2009 to more than 32.8 million. This stagnant growth is largely a reflection of the continuing economic malaise combined with airlines' efforts to adjust to market conditions.

Nighttime operations continued to decline, from an average of 1,714 per month in 2009 to 1,330 in 2010. This is approximately the same monthly average as 2004.

1 DNL is a cumulative average annual noise exposure over 24 hours with a nighttime penalty of 10 decibels for operations between 10 p.m. and 7 a.m.

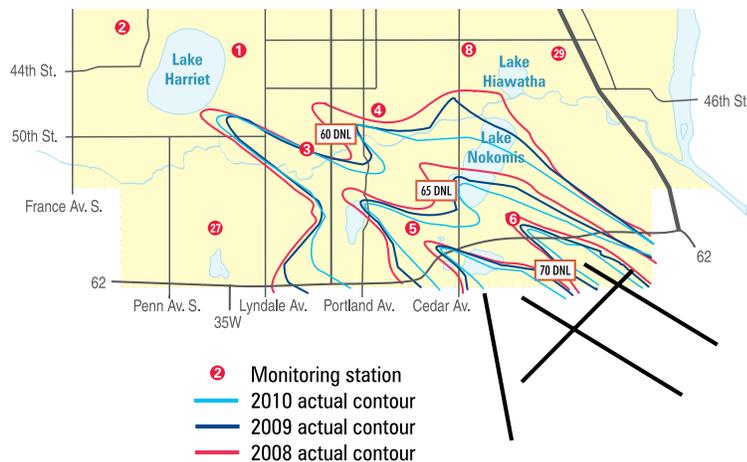
Average noise levels at Minneapolis monitoring stations in decibels



Source: Metropolitan Airports Commission

* January through November actual values, 12-month average generated by applying November values to December.

Airport noise monitoring stations in Minneapolis



Source: Metropolitan Airports Commission

Recent City & Community Activities

- In 2010, 1,786 Minneapolis homes were renovated under the noise mitigation program. www.ci.minneapolis.mn.us/airportnoise
- Won implementation of conditions for the Metropolitan Council's approval of the MAC's Long Term Comprehensive Plan, including five-year updates, noise analysis and capacity analysis.
- Adopted 60 DNL as the Minneapolis standard for airport noise, which is lower than the federal threshold, to determine preventive and corrective land use actions including mitigation. Helped Eagan, Richfield and other cities adopt similar measures.
- Operations of older, noisier aircraft continue to decline at MSP. In the last quarter of 2010, only 4 percent of flights were made by older, retrofitted aircrafts.

Web Links & Resources

Metropolitan Airports Commission
www.msairport.com/mac
 To file a noise complaint, visit www.macnoise.com/complaint or call (612) 726-9411.
 City of Minneapolis airport noise www.ci.minneapolis.mn.us/airportnoise

Tree Canopy

Expand the City's Tree Canopy

Our urban forest cleans the air, shelters wildlife, catches water runoff, cools our homes, provides us with food and makes our city more beautiful. Protecting our urban forest is a challenge, with insects, disease and construction killing more trees than we plant. A new threat is the emerald ash borer, an invasive beetle that kills ash trees, discovered in the city in 2010. With nothing proven to stop it, emerald ash borer is poised to destroy 22 percent of all trees in Minneapolis in short order.

Target

- Maintain the tree canopy at 26 percent of the city through 2015 and increase it to 30 percent of the city by 2030.

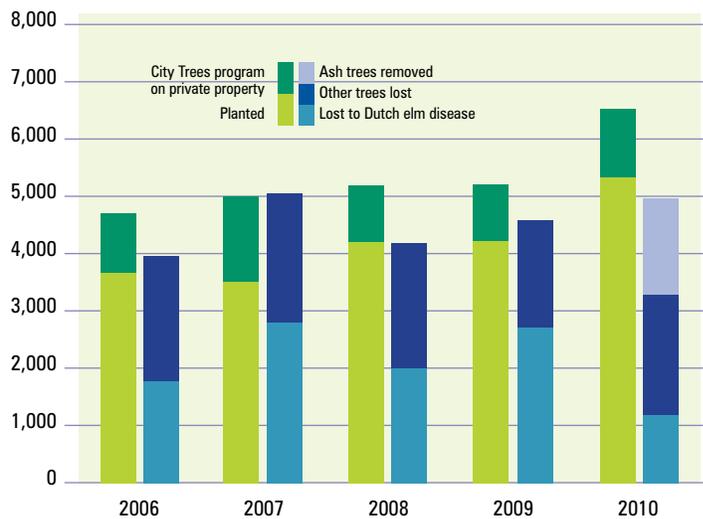
- Plant at least 4,000 trees on public land in 2010 and gradually increase to 6,000 trees planted annually by 2015.

Trend Analysis

The tree canopy, last measured in 2004, covers 26 percent of the city.

The Minneapolis Park and Recreation Board met the tree planting target for the sixth year in a row by planting 5,300 trees. Since 2003, the MPRB has planted an average of 3,800 trees per year for a total of more than 27,000 trees along streets and in parks. There has still been a net loss of 5,836 public trees in the city over the past five years. In response, more than 5,800 trees have been planted on private land over the past five years through the City Trees program.

Trees lost¹ and trees planted² 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 in Theodore Wirth Park and Minnehaha Park.
- 2 The size of the average tree removed is 24 inches in diameter. The average replacement tree is 1.5 inches in diameter.



To nominate large or historically significant trees in the city as a heritage tree, visit: www.minneapolisparke.org/default.asp?PageID=1252

Recent City & Community Activities

- Provided 1,245 trees to city residents for planting in their own yards through the City Trees Program in partnership with Tree Trust, a local nonprofit. www.treetrust.org
- More than 1,400 unhealthy and declining ash trees have been removed and replaced from boulevards and parks through a Minnesota Department of Agriculture grant to help combat emerald ash borer.
- Held the official Minneapolis Arbor Day celebration at Jordan Park where more than 400 students from the Hmong International Academy helped plant 140 new trees. www.minneapolisparke.org/default.asp?PageID=986
- Students from Lucy Craft Laney School, volunteers from the Cleveland neighborhood, MPRB staff and Vikings players planted 60 new trees as part of the Vikings Planet Purple Program.
- Volunteers and Tree Trust planted trees and hundreds of shrubs at the new parking lot at St. Anne-St. Joseph Hien Church in north Minneapolis.
- Volunteers planted 32 trees and hundreds of shrubs along the Midtown Greenway as part of Tree Trust's 10th annual Arbor Day event cosponsored by the Midtown Community Works Partnership, Hennepin County Regional Railroad Authority and the Midtown Greenway Coalition.
- The MPRB and University of Minnesota are starting seedlings from old, hardy, significant trees.

Web Links & Resources

Minnesota Department of Agriculture emerald ash borer information www.mda.state.mn.us/plants/pestmanagement/~/_/link.aspx?id=739576CEA8434EB09D7334B18106C5D2&z=z

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

Minneapolis Urban Forest www.ci.minneapolis.mn.us/trees

U.S. Department of Agriculture (USDA) 2004 UFORE tree canopy study of Minneapolis www.itreetools.org/resources/reports/Minneapolis%20Urban%20Forest.pdf

Reduce Stormwater Pollution Entering Lakes, Creeks and the Mississippi River

Rain running across hard surfaces such as roofs, streets, driveways and compacted lawns picks up pollutants as it flows. Strategies for keeping pollutants out of our waterways include rain gardens, wetland areas, grassy swales, pervious pavers, underground treatment chambers and street sweeping. Reducing pollution is the responsibility of the City and all Minneapolis residents, property owners and visitors.

Target

- Reduce pollutants in stormwater runoff, establish measurements of pollution reduction and determine the extent of the City’s part in bringing impaired water bodies into compliance, all by 2015.
- Increase the number of rain gardens to 3,000 by 2015.
- Eliminate combined sewer overflows by 2014.

Trend Analysis

The State of Minnesota determines whether lakes, rivers and creeks are suitable for swimming, fishing and providing habitat for aquatic life. Minneapolis stormwater runs into 15 water bodies that are on the state’s impaired waters list: the Mississippi River, three creeks and eight lakes in Minneapolis, and three lakes outside of Minneapolis. Work is under way to establish measurements for stormwater pollution reduction programs and to determine the full scope of the problems and possible solutions.

The number of rain gardens in the city increased by about one-third in 2010.

There were two events in which heavy rains caused stormwater contaminated with raw sewage to be conveyed into the Mississippi River. This is a type of combined sewer overflow. Damage to a deep stormwater tunnel that runs parallel to a sanitary tunnel is thought to be one of the primary causes, and the tunnel is now repaired. This followed three years with no combined sewer overflow events.

www.ci.minneapolis.mn.us/cso

Minneapolis Rain Gardens

by land use category

	2009	2010
Residential: <i>single and multifamily</i>	656	902
Commercial and industrial	81	113
Mixed use: <i>businesses on lower floors with residences above</i>	19	22
Institutional: <i>schools, universities, libraries, churches, other</i>	87	108
Public: <i>parks, plazas, right-of-way areas, public parking lots</i>	63	71
Total	906	1,216

Source: Minneapolis Public Works



This pond controls flooding and protects Mississippi River water quality by removing significant amounts of sediment and phosphorus from stormwater runoff.

Recent City & Community Activities

- More than 3,000 volunteers removed more than 15,000 pounds of trash from their watersheds at 38 locations on Earth Day, helping keep pollution out of the lakes, creeks and river.
- Metro Blooms trained 432 Minneapolis residents to design and install rain gardens. metroblooms.org
- Adopted planning and zoning measures to reduce stormwater runoff, including new standards for pervious pavement in driveways and parking areas. This is part of continually updating and greening the zoning code to promote sustainability.
- Held a Canines for Clean Water summer movie series. At several events, dog owners took a pledge to dispose of dog waste responsibly. www.minneapolisparcs.org/default.asp?PageID=1231
- Inspected and assessed 9.7 miles of deep stormwater tunnels in 2010, finding 17 percent in good condition, 63 percent in fair condition and 20 percent in poor condition. Keeping our pipes and tunnels in good repair is important to water quality and flood control.

Web Links & Resources

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

Minnesota Pollution Control Agency stormwater manual www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/stormwater-management/minnesota-s-stormwater-manual.html

Minnesota Water – let’s keep it clean www.cleanwatermn.org/about-you/General-Public-Resources.aspx

Improve the Water Quality of Minneapolis Lakes

Residents of the City of Lakes enjoy swimming, boating, fishing and biking and walking along our lakeshores. Keeping our lakes, creeks and rivers clean is critical to a healthy urban environment, safe recreation and high-quality wildlife habitat. Practices that help protect lake water quality include frequent monitoring, lake restoration projects, managing stormwater to keep pollutants out of our lakes and helping residents understand how they can help manage stormwater.

Target

- Every Minneapolis lake is rated and receives a ranking of eight, nine or 10 (with 10 being excellent) on the Lake Aesthetic and User Recreation Index (LAURI)¹ by 2014.
- No beaches are closed due to water quality.

Trend Analysis

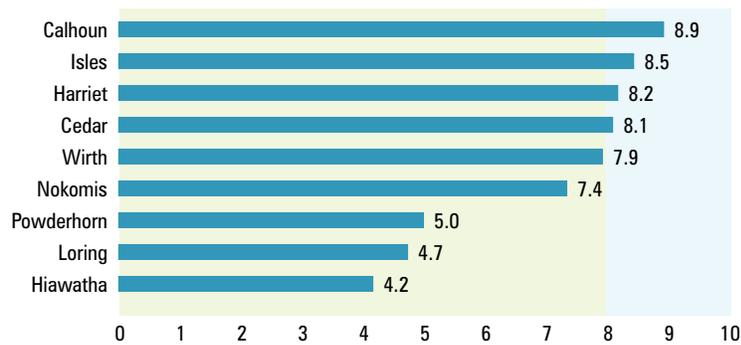
A wet summer and large resident goose population contributed to six beach closings at Lake Hiawatha and one at Cedar Lake's Cedar Point Beach.

The LAURI provides a snapshot of the conditions at the lakes during the summer season and provides a means for analyzing trends and identifying problems affecting our lakes. In 2010, Lake Calhoun, Lake Harriet and Lake of the Isles met the LAURI target of eight, nine or 10. There was much more rain in 2010 than recent years, and the additional stormwater runoff to the lakes led to worse water clarity and more trash.

¹ The LAURI measures: 1) public health status at swimming beaches 2) water quality including clarity 3) aesthetics such as color, odor and debris 4) availability and ease of public access for recreational uses 5) habitat quality for plant and fish diversity. These five indices are scored on a scale of one to 10.

Lake Aesthetic and User Recreation Index

average on a scale of one to 10



Source: MPRB 2010 Water Resources Report www.minneapolisparcs.org/default.asp?PageID=791



Members of the Teen Teamworks Green Team summer jobs program install bulrushes along the shoreline of Powderhorn Lake to improve habitat.

Recent City & Community Activities

- Installed rain gardens and pervious parking lot surfaces at the Lake Calhoun parking lot to help manage stormwater and reduce water pollution.
- Participants in the Mississippi River Green Team summer youth employment program planted more than 100 residential rain gardens in a subwatershed of Powderhorn Lake to help improve water quality. <http://metroblooms.org/neighborhood-of-gardens.php>
- MPRB naturalists provided water quality education at more than 70 park events.
- Barley straw treatment since 2004 at Lake Powderhorn continues to improve the lake's water clarity.
- Developed the Zebra Mussel Action Plan to limit the potential spread of invasive zebra mussels in Minneapolis lakes and streams.
- Removed more than 1,100 cubic yards (approximately 200 truckloads) of invasive Eurasian watermilfoil from city lakes to improve recreational access.
- The 2010 Blue Community Makeover of the Diamond Lake watershed added rain gardens and permeable pavers at a number of sites, including Pearl Park, to reduce stormwater runoff into Diamond Lake and improve its water quality.

Web Links & Resources

Minneapolis Park and Recreation Board
Annual Water Resources Report
www.minneapolisparcs.org/default.asp?PageID=791
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

Green Jobs

Growing a Green Economy

The expanding green jobs industry provides opportunities for workers with a wide range of skills. Green jobs also grow our economy and reduce environmental impacts. The City is playing an active role in supporting local green businesses and growing green jobs through our environmental procurement and green building policies, workforce training activities, energy efficiency financing programs, and business-to-business networking efforts.

Target*

- Demonstrate green job growth of 25 percent above overall City job growth by 2013, as measured through a test group of Minneapolis green businesses.
- Achieve a net gain of five green companies per year in Minneapolis.

* Not yet approved by City Council.

- Train 500 individuals in green collar trades and place at least 280 of these workers in green jobs by 2012.

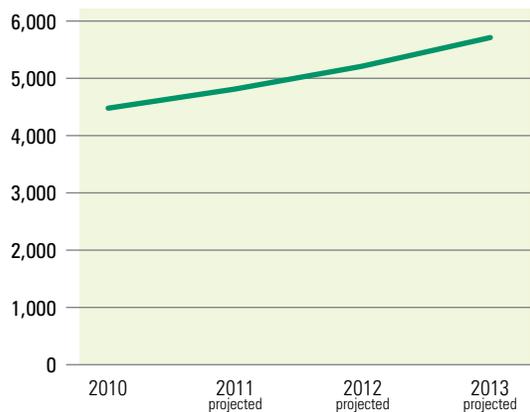
Trend Analysis

Minneapolis is home to more than 150 green businesses. Promising startups such as ReGo, VAST, Torrefaction Systems, Minneapolis Biomass Exchange, Wood from the Hood and DriveAlternatives gained traction in 2010. Other more established homegrown green businesses expanded, including Dero Bike Rack Co. and Sojourner Farms.

Local green industry sectors that have shown particular strength and activity during this past year include energy efficiency; solar; green chemistry and green building products; sustainable transportation (e.g., electric vehicles and bicycle parts and equipment); and local, organic food service.

Green jobs growth

in number of jobs



Source: Minneapolis CPED, based on MN DEED employment projections and green jobs multipliers from a 2010 US Department of Commerce Study



Workers installing sections of the Target Center green roof.

Recent City & Community Activities

- The City, in partnership with Ramsey County Workforce Solutions, launched Renewable Energy Networks Empowering Workers (RENEW), a two-year, \$4 million federally funded green jobs training and placement project. www.renewmn.com
- Minneapolis and Saint Paul launched Thinc GreenMSP, a new economic development partnership to grow the region's green economy, support local clean technology manufacturers and create good-paying jobs. www.bluegreenalliance.org/admin/publications/files/ThincGreenMSP.pdf
- Minneapolis' residential energy efficiency program served more than 2,400 Minneapolis homes in 2010, created more than 20 permanent jobs and 30 construction jobs. www.mncee.org
- The City promoted and supported the work of Community Action of Minneapolis to weatherize more than 2,000 homes of low-income residents using Recovery Act funding. www.campls.org
- The City supported the Minneapolis Regional Chamber of Commerce's 2010 Greening Your Business Expo, which drew 75 exhibitors and more than 900 participants. www.minneapolischamber.org/program_green_business_expo.php
- The Minneapolis Convention Center solar array construction provided more than 3,000 hours of on-the-job training toward certification for solar installers and generated about 30 jobs. www.minneapolisconventioncenter.com/about/sustainability.asp

Web Links & Resources

GreenPOWER training
www.mngreenpowertraining.org/training
 Twin Cities Green Business Directory
www.mngreendirectory.org
 Enterprise Minnesota www.enterpriseminnesota.org

Increase the Amount of Local Food Grown, Sold and Consumed in Minneapolis

A socially, economically and ecologically sustainable food system supports and promotes the current and future health of individuals, communities and the natural environment. It requires infrastructure and networks that support the life cycle of food from production to waste recovery. It makes nutritious food accessible and affordable to all, increases food safety and security, and is biodiverse and resilient. It is also humane and fair, protecting farmers, workers, consumers and communities.

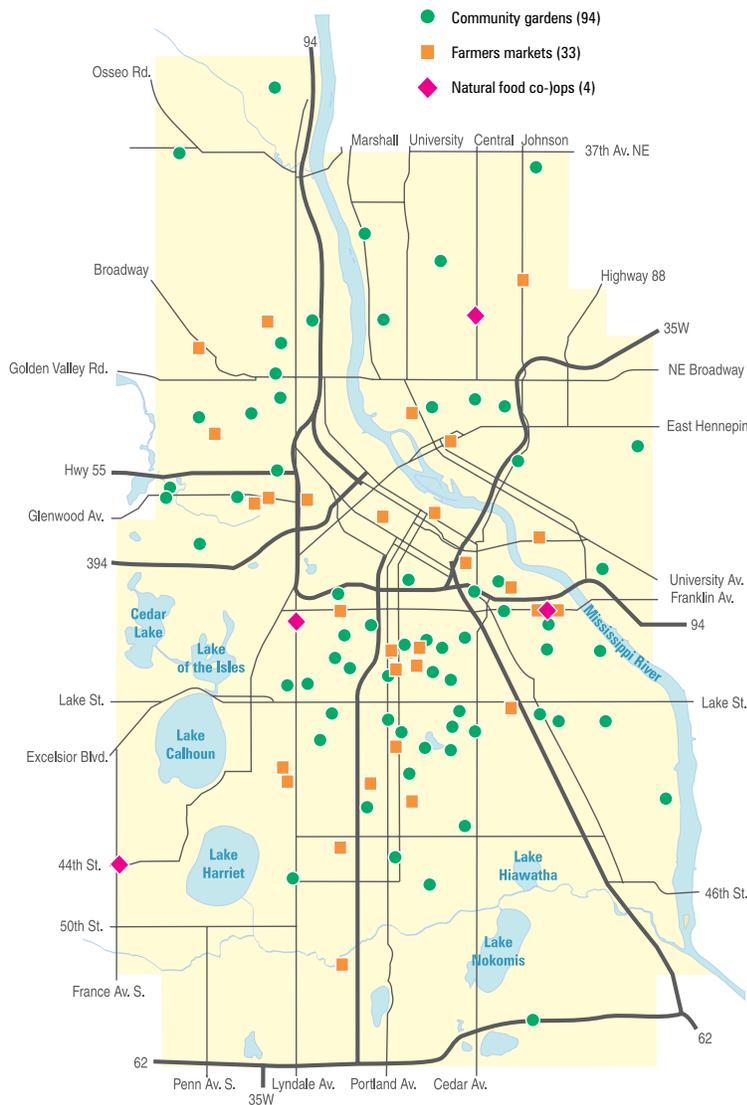
Target

Targets are currently under consideration.

Trend Analysis

The local food system in Minneapolis currently includes 33 farmers markets, 94 community gardens on 18 acres (13 of which are food-growing), four health food co-ops, over 90 local drop-off points for community supported agriculture (CSA) farms, and many local restaurants serving local food. Food-related ordinance changes to date include: beekeeping and indoor farmers markets are now allowed, grocery stores can now host farmers market vendors, most corner stores are now required to offer at least five varieties of fresh fruits and vegetables, and mobile food vendors can sell non-packaged food in downtown.

Sources of local food in Minneapolis in 2010



Source: Minneapolis CPED, Planning
University of Minnesota, Gardening Matters

Recent City & Community Activities

- Developed a draft Urban Agriculture Policy Plan, a land use and development plan that will provide a policy framework for commercial and noncommercial urban agriculture.
www.ci.minneapolis.mn.us/cped/urban_ag_plan.asp
- Funded development of a Local Food Resource Network to link residents, gardeners and entrepreneurs more easily with seeds, seedlings, education and tools needed for food growing, preservation, distribution and waste recovery.
- Funded development of a Food Preservation Network that trained 19 community food preservation guides to provide canning instruction and coordinated food preservation events at six locations for more than 81 participants.
- Made the process easier for residents to start up community gardens.
- Made 18 plots on City land available to residents for community gardening and created an application and lease. Five of them were leased.
- Helped the Minneapolis and Northeast farmers markets launch Electronic Benefits Transfer (EBT), making healthy food accessible to more residents. The City also funded a short-term Market Bucks incentive program this summer to increase the purchasing power of EBT users at these two markets.
- Planted 200 edible chokecherry trees around the city as part of the City Trees program.

Web Links & Resources

Homegrown Minneapolis
www.ci.minneapolis.mn.us/dhfs/homegrown-home.asp

Institute for Agriculture and Trade Policy:
Local Foods Program
www.iatp.org/localFoods

Local Harvest
www.localharvest.org

Minneapolis greenprint

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VI



Minneapolis City Coordinator

Sustainability

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For more information: call **311**

or e-mail sustainability@ci.minneapolis.mn.us

or visit www.ci.minneapolis.mn.us/sustainability

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