City of Grand Rapids - Applied Sustainability

April 26, 2010
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Office of Energy and Sustainability
Overview

- Background on City of Grand Rapids
- Commitment to Sustainability
  - Community Sustainability Partnership
  - Sustainability Plan & TBL
  - 100% renewable energy goal
  - Energy efficiency and conservation
City of Grand Rapids

- Population: 197,800 (2000 Census)
- City Government: 1,600 employees
  - Lost over 300 employees since 2001
- Operating Deficit for FY2010 = $9.2 million
- Projected Operating Deficit for FY2011 = $27.43 million
Unconnected Tactics

- Sustainability Plan
- Green Grand Rapids
- Performance Management Plans
- Triple Bottom Line Indicator Report
- Master Plan
- Fiscal Plan
Fully Integrated Strategy

Sustainability Plan

Triple Bottom Line Indicators

Fiscal Plan

Service Package

Outcomes & Targets

Lean Thinking
Community Sustainability Partnership

Grand Valley State University

City of Grand Rapids

Grand Rapids Community College

Grand Rapids Public Schools

Aquinas College

Makes all the difference in the world.
The Sustainability Framework is a dynamic inventory of interconnected areas of interest, activities, and related outcomes that lead to a sustainable city and community. It is critical to note that the activities that are conducted within this framework, although categorized under a primary area, relate to all three principles of sustainability and their impact will be measured against the triple bottom line.

SUSTAINABILITY VISION STATEMENT

Sustainable City: The economic, environmental, and social systems throughout the city are ideal and in balance to create and sustain a positive quality of life for future generations.

Sustainability Themes and Outcomes

Clean Environment
- The natural environment is respected, improved, and preserved for future generations.

Enriched Lives
- Opportunities for and access to educational and cultural experiences are abundant.

Prosperous Economy
- The economic system fosters and sustains strong business and gainful employment.

Quality Community Design and Infrastructure
- Community development is conducted in accordance with the city’s Master Plan and infrastructure design is conducted in accordance with the city’s Master Plan and governing rules and guidelines.

Responsible Government
- The City is a “best in class organization” by which the management of the City and the provision of services are conducted.

Safe Neighborhoods
- Neighborhoods are free from crime and other threats to public safety.

Social Equity
- Society embraces diversity and uses the power of diversity for positive change.
“Treat the Earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the Earth from our Ancestors; we borrow it from our Children.”

(Ancient First Nations Proverb)
Sustainable cities work to eliminate all toxic/hazardous wastes and convert the remaining materials to “food” or raw materials for other processes.

Target: Increase Residential recycling rate 10% by 2010 and continue the downward trend in Refuse Tons/Household.
Sustainable cities develop a diverse local economy that supports community families and individuals with sufficient personal income and a high quality of life and personal well-being.

Target: Increase per capita personal income in Grand Rapids to meet and then exceed the County and State levels by the next Census (2010).
Sustainable cities create safe, caring, thriving, and vibrant communities for families and individuals.

Target: Continue to work with City Neighborhood Associations to reduce crime and violence within the community.
The City will continue to provide these services while doing our part to protect the integrity of the natural environment, promote economic prosperity, and ensure social equity for all of our citizens... We will be successful in this “Triple Bottom Line” approach using City leadership, partnerships with others, and the commitment of our citizens to accomplish the following outcomes:

ENVIRONMENTAL

ENERGY AND CLIMATE PROTECTION

1.1 Reduce the City’s greenhouse gas emissions (carbon footprint) and impact on climate change.

1.2 Reduce energy demand and fossil fuel consumption.

ENVIRONMENTAL QUALITY AND NATURAL SYSTEMS

2.1 Maintain an adequate and safe water supply.

2.4 Reuse and recycle; and reduce waste sent to landfills.
ECONOMIC

A STRONG ECONOMY
4.1 Increase business investment in the city.

DIVERSE SUPPLIER BASE
5.2 Ensure fair, equal and open procurement, management, and financial processes.

VITAL BUSINESS DISTRICTS
9.2 Increase the vitality of neighborhood business districts.
9.3 Capitalize on the Grand River area for economic development and people-oriented activities.
SOCIAL

GREAT NEIGHBORHOODS
10.1 Increase housing choices for all city residents and decrease homelessness.
10.2 Ensure compliance with City building, housing, and nuisance codes.
10.3 Ensure diversity, inclusion and nondiscrimination.

PUBLIC SAFETY
14.1 Reduce the incidence of crime in the city.
14.2 Reduce the loss of life and property from fire and emergency medical calls.
14.3 Ensure the City is equipped and capable of responding to emergencies and disasters.
Outcome 1.1. Reduce the city’s greenhouse gas emissions (carbon footprint) and impact on climate change.

**Target 1:** Meet the obligations of the US Mayors Climate Protection Agreement for greenhouse gas emissions reductions by June 30, 2013.
1.0 ENERGY AND CLIMATE PROTECTION

Outcome 1.2. Reduce energy demand and fossil fuel consumption.

- **Target 2:** Reduce the City’s annual electrical usage to 107,000 MWh by June 30, 2013

- **Target 4:** Achieve 30% of energy use from renewable sources such as hydro, wind, solar, and geothermal by June 30, 2013.
2.0 ENVIRONMENTAL QUALITY AND NATURAL SYSTEMS

Outcome 2.3. Protect and maintain healthy ecosystems and habitat.

- **Target 1**: Increase the percentage of tree canopy in the city from 35% in 2008 to 37.5% by 6/30/2015.

- **Target 2**: Increase the percentage of low-maintenance grasses and native plants used in landscaping throughout the city by 25% by June 30, 2015.
Facilities Operations and Maintenance

- Outcome: Reduce energy demand and fossil fuel consumption.
  - Target 1: Reduce our electrical consumption by 5% by 6/30/2012.
  - Target 2: Reduce our natural gas consumption by 5% by 6/30/2012.
Next Steps: Measuring Results

Community Triple Bottom Line Indicator Report V.2.0
Sustainability plan and TBL indicators to provide complete linkage between the City’s budget, the sustainability plan and TBL indicators are focused on outcomes.
Fully Integrated Strategy

- Sustainability Plan
- Service Package
- Fiscal Plan
- Triple Bottom Line Indicators

Outcomes & Targets

Lean Thinking
Geothermal – captures energy in treated effluent to provide HVAC for lab using heat pump technology

Flow equalization – avoids peak demand charges for electrical

Fine bubble diffusion – saves about $338,000 per year in electrical costs compared to old system
Renewable Energy

- Mayor’s State of the City in 2005 challenged us to get 20% of our energy from renewable sources by December 2008

Goal achieved by December 2007, a year ahead of schedule.
Renewable Energy

- 2008, Mayor’s challenge to meet 100% renewable energy sources by December 31, 2020.
- In 2009 created the Office of Energy and Sustainability to focus on sustainability, energy efficiency and renewable energy.
- Sustainable cities conserve, capture, and reuse all forms of energy and utilize renewable sources to produce it whenever possible.
Renewable Energy Projects

- Renewable power generation from fluid pressures.
- Solar panels
- Wind: public-private partnership
ARRA - Energy Efficiency and Conservation Block Grant
- Developed a comprehensive Energy Efficiency and Conservation Strategy
- GHG Emission inventories
  - Community and organization
Efficiency Projects

- Sustainable roof on City Hall
- Geothermal
- Light fixtures
- Windows
- Better management and energy usage tracking
- Motion sensors
The City of Grand Rapids was ranked among the top 25 cities in the U.S. for applying sustainable development guiding principles by Kent Portney in his book *Taking Sustainable Cities Seriously*. 1st in the World LEED Certified
Grand Rapids has been recognized nationally for its LEED buildings:

- The highest LEED buildings per capita in the U.S. (Rick Fedrizzi, President of the US Green Building Council (USGBC))
- First LEED certified municipal building in Michigan
- First LEED certified YMCA and Art Museum
- Fourth in the nation in the number of certified and registered LEED projects

Chosen by the American Institute of Architects (AIA) as a case study in its report on green building trends
Sustainability Recognitions

- Environmental Protection Agency (EPA) Green Power Leadership Club: Top 20 Green Power Purchasers 2008 & 2009
- Consumers Energy, Michigan Customer of the Year 2008
- West Michigan Business Review First annual Green Awards - Greenest City
Certificate of Acknowledgement

This is to certify that

RCE Grand Rapids

was launched at

The City of Grand Rapids, Michigan, USA

10 January 2007

Hans van Ginkel
UNU Rector
U.S. Chamber and Siemens Corporation Announce
Finalists for National Sustainability Awards

WASHINGTON, D.C.—The U.S. Chamber of Commerce Business Civic Leadership Center (BCLC) and Siemens Corporation today announced that nine communities across the country have been selected as finalists for the 5th annual Siemens Sustainable Community Awards. The finalists were selected based on their outstanding efforts to achieve complementary economic, environmental and social goals, as well as to improve the overall quality of life within their communities.

“Despite – or perhaps because of – the tough economic conditions we’ve been enduring, more communities across the country embraced public-private partnerships as a core strategy for promoting sustainable community development,” said BCLC Senior Vice President and Executive Director Stephen Jordan. “All of the finalists for the awards made important contributions to their home towns this year.”

2010 Siemens Sustainable Community Awards: National Finalists

Large Community — Atlanta, GA; Dallas, TX; and Philadelphia, PA
Mid-Size Community — Davenport, IA; Grand Rapids, MI; and Hoover, AL
Small Community — Casselberry, FL; Manhattan Beach, CA; and Newton, IA

Details about the finalists, as well as the award winners from 2009 and 2008, are on BCLC’s Web site.

“These communities have shown that, even in tough economic times, they can remain focused on ensuring a strong and sustainable future,” said Jim Whaley, vice president, Corporate Communications and Marketing, Siemens Corporation.

Added Whaley, “Siemens is proud to be associated with these outstanding and forward-thinking municipalities and we look forward to continued work with many communities across the U.S. to help create a sustainable future through cutting-edge innovation.”
Questions and Contact Information

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Sustainable GR
http://www.sustainablegr.com/
CSP
http://www.grpartners.org/

Future Cities Conference
Climate Strategies for Sustainable Communities
September 10, 2010 in Grand Rapids