Buffalo Environmental Management Commission
Monthly Energy/ Efficiency and Sustainability
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Light emitting diodes (LEDs) are 90% more energy efficient and last 6-10 times longer than conventional light bulbs. By switching from conventional bulbs to LEDs significant costs can be realized from energy and maintenance expenses. Traffic signals and exit lights are operating continuously and costs recovered by switching to LED can occur quickly.

The City of Ann Arbor, Michigan paid $1.39 million, 25% of their energy budget, on traffic signals and streetlights last year. The cost would have been higher had the City not begun replacing incandescent traffic signals and pedestrian crossing signals with LEDs back in 2000. The replacements made so far are saving the city $49,000 annually, but the bigger savings opportunities are in street lighting, which accounts for 92% of the $1.39 million annual cost. Ann Arbor is currently investigating LED street lighting in the hopes of cutting their street lighting bill in half.

LEDs have been in existence since the 1960s. Recently they have become practical for general lighting purposes. Although they cost more upfront than the bulbs they replace, LED lights use half the energy (or less) and last longer than conventional bulbs, resulting in big savings and short payback periods. One specific advantage of LEDs is that they produce directional light. This gives more control over what is lit (i.e. the street) and what is not lit (the night sky), reducing light pollution and wasted energy.

After successfully piloting LED globe lights on a full block downtown, Ann Arbor is going ahead with full conversion of over 1,000 of their downtown street lights. $630,000 to fund the retrofit project is being provided by the Ann Arbor Downtown Development Authority.

Ann Arbor is also testing several different varieties of what is called “cobrahead” fixtures on a local city street. The LED pilot program has already received considerable recognition, winning ICLEI’s first annual Climate Innovation Invitational Award and being featured as part of a video on Ann Arbor that aired at the 2007 International City Managers Association conference.

For more information on Ann Arbor’s lighting program visit www.A2gov.org/energy or contact David Konkle, 100N. Fifth Ave., Ann Arbor, MI 48104 at (734) 996-3150 or dkonkle@a2gov.org.

Other cities that have converted conventional traffic signals with LED technology include:

- Denver, Colorado – contact Beth Conover, Advisor to the Mayor, (720) 865-9090, or beth.conover@ci.denver.co.us;
- Passaic, New Jersey – contact Robert Lesch, Public Energy Solutions (866) 818-1900, ext 102 or www.publicenergysolutions.com; and,
- Saint Paul, Minnesota – contact John Maczko, Department of Public Works, (651) 487-7206.