The City of Highland Park

Highland Park provides water to over 10,000 residences and businesses, as well as to several contracted municipalities. The city's water source is Lake Michigan with a capacity of 30 million gallons per day, about half of which is sold contractually. Peak residential water demand happens in late July through August due to outdoor water use, such as lawn watering.

In spring 2013, Highland Park established its Water Conservation and Efficiency (WCE) Initiative. City leaders recognized the importance of responsible water resource management and decided to take measures to make water distribution more efficient.

Water Conservation and Efficiency Initiative

The core elements of the WCE are: the establishment of a 3-tiered conservation rate water pricing plan; implementation of an odd/even sprinkling schedule; the requirement of smart sensors on new lawn sprinkler systems; and a public education plan.

**Conservation-Rate Water Pricing Plan**
The objective of the conservation-oriented water pricing is to encourage efficient use of water during peak demand periods, as driven by residential non-essential, discretionary water use for lawn watering.

**Odd-Even Sprinkling Schedule**
Lawn irrigation not only drives summer peak water use, but is also a source of water waste, with as much as (an estimated) 50 percent wasted due to inefficient watering.\(^1\) Limiting lawn sprinkling can significantly reduce peak demands and lead to water efficiency gains for communities.

**Smart Sensors**
Installing smart sensors that use current weather data to adjust irrigation schedules result in water savings and financial savings. They improve water use efficiency by assessing landscape needs and adjusting watering accordingly.

**Public Education**
Public information programs complement pricing strategies, lawn watering restrictions, and smart sensors by creating broad-based awareness of the importance of conservation. The purpose of public education is to increase awareness of the value of water and promote water efficiency.

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\(^1\) See [www.epa.gov/watersense](http://www.epa.gov/watersense)
Approach

The main component of this initiative was the 3-tier conservation water pricing plan. The city’s charge was to devise a revenue neutral pricing structure that would also result in a reduction in lawn irrigation. In researching conservation rate implementation, city officials found that consumer response is widely variable and considerably influenced by regional and demographic factors. These facts introduced an element of uncertainty into the rate plan development. Highland Park decided on the 3-tier structure, but included annual reviews to assess the program’s influence on conservation behavior and on revenue. And to make necessary adjustments to the rate structure. The City’s schedule of quarterly meter reading was also seen as a challenge since residents receive their bill up to four months after water is consumed. The City is converting to Automated Meter Reading (AMR) technology which will permit more frequent meter readings to provide more timely price signals to residents, beginning in the spring of 2016.

The second component of the WCE was to create a sprinkler system ordinance that would reduce the amount of water wasted by irrigation. The ordinance contains sprinkling restrictions as well as standards for new lawn irrigation systems.

Key Findings

What is the structure of the water rate plan?

The city implemented the tiered water rate plan in July 2014. Officials predicted that residents using a high volume of water may see changes in water rates, but that the majority of single-family customers in Highland Park consume water at a rate that will be unaffected by the new initiative.

How is the city preventing outdoor water waste?

Sprinkling restrictions, which are effective May 15 until September 15, prohibit sprinkler use between the hours of 12:00 p.m. and 6:00 p.m. and limit lawn irrigation to odd-even days that correspond with the property address (odd-numbered properties are permitted to use sprinklers on odd-numbered days and likewise with even-numbered properties).

The installation of smart sensors will prevent sprinklers from running during wet events like rain. As of May 2013, all newly installed lawn irrigation systems will be equipped with weather-based irrigation systems that meet EPA WaterSense standards.

Resources

*City of Highland Park Website*

*U.S. Environmental Protection Agency (EPA) WaterSense*