

NEWARK'S SMART METER PROJECT OVERVIEW

Earlier this year the Water and Wastewater Department determined the need to replace a large number of water meters due to age. This requirement brought a renewed interest in considering the move towards smart meters. Additional research and auditing occurred and it was determined that the installation of smart meters for both water and electric customers citywide could provide increased revenue from water sales due to improved accuracy, operational cost savings, and a base for a Wi-Fi mesh throughout the City. **Our project will not require residents and businesses to fund the purchase and implementation of the smart meters (and all associated equipment and software) as the project will be implemented through a guaranteed performance contract that allows the savings generated by the project to pay for its costs over a period of years.**

PROJECT DETAIL

1) Automated Metering Infrastructure (AMI) for Water and Electric Meters

An Advanced Metering Infrastructure (AMI) meter reading solution will be installed. The AMI system will include remote meter reading capabilities for our 9,978 water meters and 11,768 electric meters. Both the electric and water meters are equipped with a transmission device which broadcasts meter reading data via a mesh network. This data "hops" to a centralized aggregation point in the network (Gatekeepers). The Gatekeepers will transmit the meter reading data via a direct-wired connection to a gateway. The network then transmits the meter reading data to the home server.

The meter reading software resides on a project specific server located at the Municipal Building. The mesh AMI system will be comprised of sixteen (16) Gatekeepers and thirty-one (31) repeaters. The repeaters and Gatekeepers will be installed by our Electric Department personnel. In addition, each installed electric meter can function as a repeater.

A. Water Meters

This project includes the replacement of our existing analog water meters with 9,978 to improve the accuracy of our meter reading system by eliminating errors inherent in the old meters along with eliminating misreads and re-reads. With this upgraded meter, leaks are detected and found faster, which reduces water loss and the resulting lengthy investigations and negotiations with customers over disputed bills. Additionally, while remote turn on and off will not be available for water meters, we will be able to perform remote ending and starting meter reads. Continuous leak detection is conducted and is a component of sound water utility conservation measures.

B. Electric Meters

Our project includes the replacement of our existing electric meters with 11,768 smart meters that allows for the elimination of misreads and re-reads. Remote turn off and on capabilities are also gained and provide operational efficiencies and improved customer service. Additionally, in the future, Newark can consider demand response programs and making available enhanced thermostats for homes and businesses to interested customers.

C. Water and Electric Meter Installation

Detailed steps have been developed for installation of the water and electric meters. This process will ensure minimal disruption to our residents/customers and a smooth transition to the new system.

2) Wireless Mesh Network

This project will implement a Wireless Mesh network for Newark that will be used by the City for various private municipal wireless applications including public safety and AMI backhaul. This project includes seven additional security cameras and fifty-two (52) mobile routers. The service area coverage is 9.5 square miles within the City boundaries of Newark.

3) Customer Web Portal (Meter Data Management System)

Honeywell, through MeterSense Solutions, will install a meter data management system with a web portal that delivers utility information directly to our residents and business owners. Newark's customers will be able to log on to a secure website to access their bill, payment and consumption histories, log service calls, review and pay accounts. In addition, not only will it serve our utility customers, it will improve City operations.