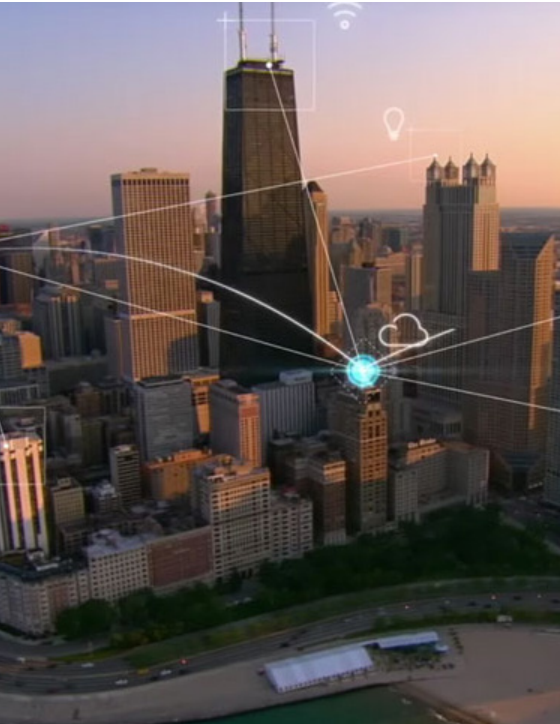




# AT&T supports the Sustainable Development Goals



## SDG 11 • *Make cities inclusive, safe, resilient and sustainable*

Many challenges exist to maintaining cities in a way that continues to create jobs and prosperity while not straining land and resources – including congestion, lack of funds to provide basic services, a shortage of adequate housing and declining infrastructure. The challenges cities face can be overcome in ways that allow them to continue to thrive and grow, while improving resource use and reducing pollution and poverty.

### AT&T Smart Cities

By 2030, almost 60% of the world’s population will **live in cities**. These cities currently account for 60-80% of energy consumption and 75% of carbon emissions worldwide. AT&T is committing our resources and expertise in the Internet of Things (IoT) to create smart cities to support the growing needs of cities, as well as improve quality of life and create new economic opportunities.

In September 2015, AT&T formed a dedicated Smart Cities Organization and in January 2016, we announced the launch of a new **Smart Cities framework** to help cities better serve their citizens and the environment. We will bring the Smart Cities framework to several initial communities: Atlanta, Chicago, Dallas, Chapel Hill (NC) and Montgomery County (MD)

and Miami-Dade County (FL), and will partner with local universities, such as the Georgia Institute of Technology, to study the impact of our solutions.

While we are already helping communities solve problems with solutions that connect utility meters, street lights, and water systems, the new smart cities framework adds several new categories:

- Infrastructure – Cities are able to remotely monitor the conditions of roads, bridges, buildings, parks and other venues. Maintenance crews can help identify slick roadways during freezing weather or detect bridges that may need repairs.



- Citizen Engagement – Mobile apps give people information to stay better prepared. For example, you can be notified in near real-time if a traffic light isn't working on your route. You can also remotely view parking meters and reserve spaces ahead of time.
- Transportation – Digital signage lets commuters know in near real-time when the next bus or train will arrive. People can rent electric bikes at stations across the city to reduce traffic.
- Public Safety – Cities can better manage traffic patterns of pedestrians at stadiums, parks, and busy intersections. Gun fire detection technology helps law enforcement know where a shooting occurred. It also can help them determine the number of people involved and rounds fired.

We're also developing a digital dashboard called the Smart City Network Operation Center (SC-NOC) to provide city officials with a real-time view of important city functions like water infrastructure, traffic patterns and safety.

## The technology that weaves through smart cities has the power to make our cities more resilient.

- Smart city solutions are part of achieving AT&T's recently announced goal to enable carbon saving 10 times the footprint of our operations by 2025.
- Technology plays a critical role in making our cities more resilient. Our collective ability to increase resource efficiency, reduce pollution and help make our cities safer will help cities continue to thrive and grow in a 21st century world economy.
- Examples of smart energy solutions within a city that can affect carbon emissions include:
  - **Smart lighting** – Smart lighting lets maintenance crews remotely manage a city's entire lighting system. Maintenance crews no longer waste time and fuel driving around town to find and replace broken bulbs.
  - **Smart meters** – AT&T provides cellular connectivity to smart-grid devices like Smart Meters that allow for better outage management, helping to make energy grids more efficient and reliable.

Ericsson and AT&T have teamed up on a connected water project to provide remote monitoring of water quality in city watersheds for the Chattahoochee Riverkeeper in Atlanta. AT&T is providing wireless connectivity for the IoT devices to help with early detection of water contamination.



## The technology that weaves through smart cities has the power to enable cleaner water and large-scale water savings.

It's not uncommon that a city can lose up to 50 percent of water via leaks. California as a whole loses as much as 228 billion gallons a year this way. A typical water pipe leak wastes almost 400,000 gallons of water per year – that's like losing 40 backyard swimming pools.

Using sensors and acoustic technology we can detect water pressure, temperature and leaks to help cities make more informed decisions and extend the life of their water systems.

Last year, AT&T, IBM and Mueller Water Products teamed up to prove that Internet of Things (IoT) technology can help address the issue of water sustainability. Together, we created an enhanced water management solution as part of the National Institute of Standards and Technology (NIST) Global City Teams Challenge. The solution collects data about pressure, temperature and leak detection, then wirelessly transmits that data to a smart dashboard that is monitored by a utility. It gives a complete view of past, present and future performance. Trials of the solution were held in Atlanta, Las Vegas and Los Angeles.

In fact, Ericsson and AT&T have teamed up on a connected water project to provide remote monitoring of water quality in city watersheds for the Chattahoochee Riverkeeper in Atlanta. AT&T is providing wireless connectivity for the IoT devices to help with early detection of water contamination.