

**IN CHICAGO,
WE BELIEVE THAT THE
POWER OF TECHNOLOGY
IS DRIVEN BY THE
PEOPLE
WHO USE AND BENEFIT FROM IT.**



IOT, TECHNOLOGY, & INNOVATION

1. FOCUS ON THE CHALLENGES
2. MAXIMIZE THE UTILITY OF EXISTING DATA
3. MERGE TECHNOLOGY & PHYSICAL INFRASTRUCTURE



COMMITMENT TO THE PARIS CLIMATE AGREEMENT

Reduced Carbon Emissions by 11 percent

Between 2005 and 2015, bringing the city to 40 percent of the way to meeting its Agreement goals. On 6/7/2017, issued an Executive Order to reduce citywide greenhouse gas emissions to levels equivalent to or greater 26-28 percent reduction from 2005 levels to 2025.

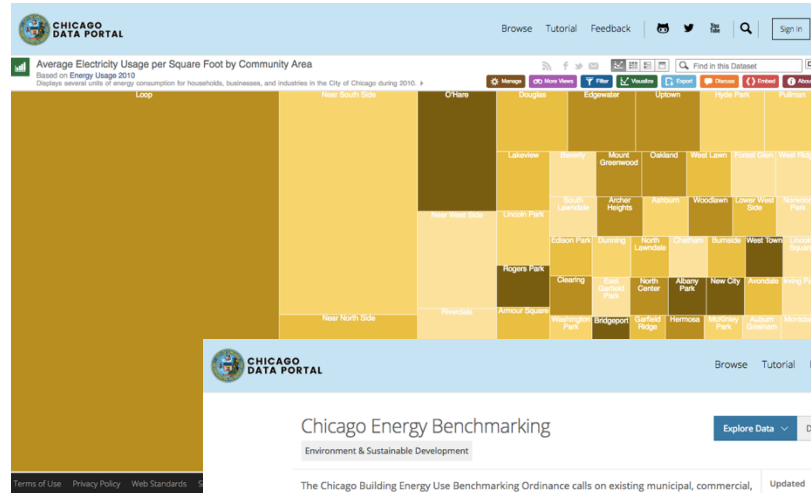


The screenshot shows the top portion of a webpage. At the top left is the 'City of Chicago' logo. Below it is a paragraph of text: 'The City of Chicago wishes to acknowledge and attribute this information to the United States Environmental Protection Agency and other federal agencies, for their decades of work studying climate change and developing approaches to protect the environment. While this information may not be readily available on the EPA's website, in Chicago we know climate change is real. We are joining cities around the country to make sure citizens have access to information on climate change. We will continue to take action to adapt to climate threats while reducing our dependence on fossil fuels.' Below this is the EPA logo. A blue navigation bar contains the text 'Climate Change Home'. The main content area has a 'Climate Change' heading. Below this is a large graphic with a dark background and a hexagonal cutout showing a family and a person in a field. The text reads: 'How climate change threatens human health' followed by 'The Impacts of Climate Change on Human Health in the United States finds that every American is vulnerable to the health impacts associated with climate change.' and a link 'Read the report >'. Below the graphic is a pagination bar with numbers 1, 2, 3, and 4. To the right is a 'Featured Climate News Stories' section with two bullet points: 'NASA/NOAA: Data Show 2016 Warmest Year on Record Globally (1/18/17)' and 'NOAA: 2016 Marks Three Consecutive Years of Record Warmth for the Globe (1/18/17)'. Below this is a 'Climate Newsroom: See all releases >>' link. At the bottom right, a yellow bar contains the text 'Climate Connections'.

MAXIMIZE THE UTILITY OF EXISTING DATA

Open Data

Over 600 datasets published online in *machine-readable formats* ranging from business licenses, crimes, energy usage, and food inspections to conditions of our beaches, taxi trips, and more.



The screenshot shows the "Chicago Energy Benchmarking" dataset page on the Chicago Data Portal. The page includes a header with the Chicago Data Portal logo and navigation links. The main content area features the dataset title "Chicago Energy Benchmarking" and a description: "The Chicago Building Energy Use Benchmarking Ordinance calls on existing municipal, commercial, and residential buildings larger than 50,000 square feet to track whole-building energy use, report to the City annually, and verify data accuracy every three years. The law, which phases in from 2014-2017, covers less than 1% of Chicago's buildings, which account for approximately 20% of...". The page also includes a "Metadata" section with the following information:

Metadata	
Time Period	2014-2015
Frequency	Annual
Data Owner	City of Chicago Sustainability Program

The "About this Dataset" section provides the following details:

About this Dataset	
Updated	February 9, 2017
Data Last Updated	November 7, 2016
Metadata Last Updated	February 9, 2017
Date Created	December 3, 2015
Views	1,987
Downloads	936
Data Provided by	City of Chicago
Dataset Owner	Jonathan Levy

The page also includes a "Contact Dataset Owner" button and a "License" section stating "The license for this dataset is unspecified" with a source link to <http://www.cityofchicago.org>.

MAXIMIZE THE UTILITY OF EXISTING DATA

Predictive Analytics

Applied to *improve operations and identify issues proactively*. Examples include: restaurant inspections, rodent baiting, E. Coli levels in Lake Michigan, and West Nile Virus cases across the city.



CHICAGO
TECH PLAN



FOOD INSPECTION FORECASTING

OPTIMIZING INSPECTIONS WITH ANALYTICS

There are over 15,000 food establishments across the City of Chicago that are subject to sanitation inspections by the Department of Public Health. Three dozen inspectors are responsible for checking these establishments, which means one inspector is responsible for nearly 470 food establishments. The Department

7 days

Improvements in number of days to discover restaurants with critical violations.



MERGE TECHNOLOGY & PHYSICAL INFRASTRUCTURE

Smart Lighting

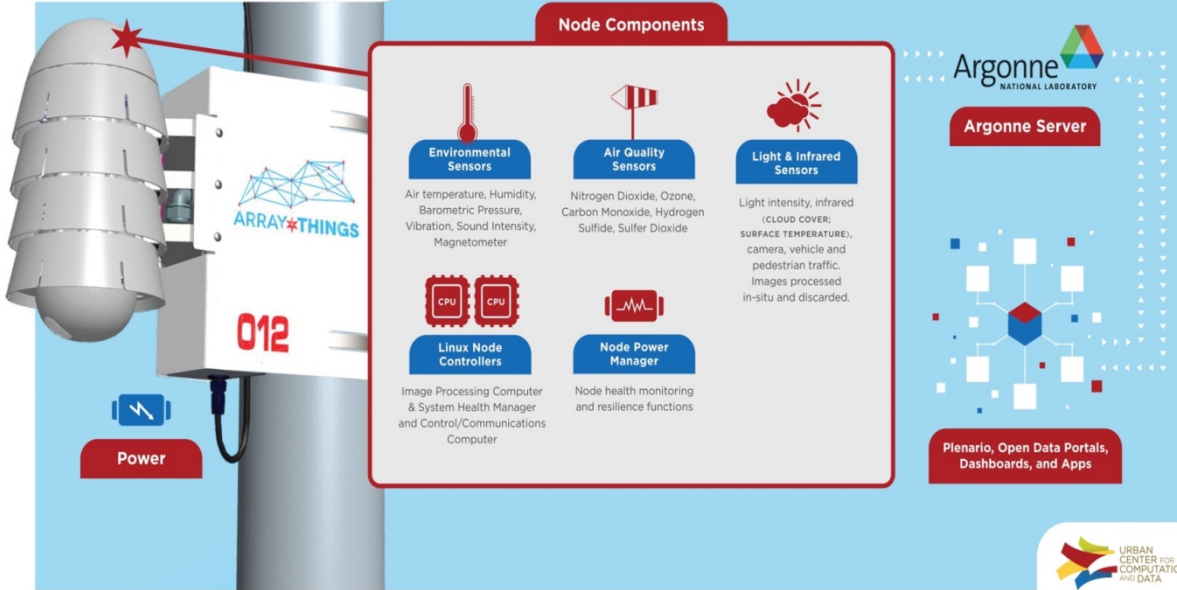
Install new LED street lights in tandem with a networked lighting management system to increase energy efficiency, prove public safety, and be more responsive and efficient.

- Automatically integrate with 311
- Bring 24/7 power to poles
- Establish platform to deploy other technologies



City of Chicago
Mayor Rahm Emanuel



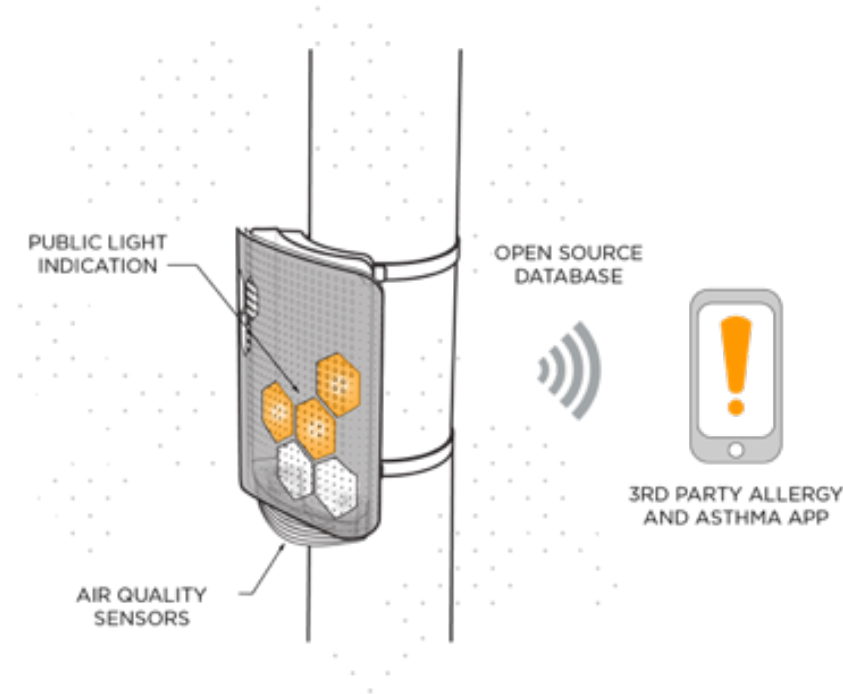


MERGE TECHNOLOGY & PHYSICAL INFRASTRUCTURE

Array of Things

IoT-based urban sensing project that consists of a network of interactive, modular sensor boxes installed around the city—
serving as a *fitness tracker* to collect real-time data on Chicago's environment, infrastructure, and activity for research and public use.

MERGE TECHNOLOGY & PHYSICAL INFRASTRUCTURE



Array of Things

Sensors monitoring air quality, sound and vibration, and temperature can be used to suggest the healthiest and unhealthiest walking times and routes through the city, or to study the relationship between diseases and the urban environment.

THANK YOU



Danielle DuMerer

CIO & Commissioner

Department of Innovation &
Technology, City of Chicago

Contact Info:

@danielledumerer

danielle.dumerer@cityofchicago.org

Websites:

Strategy @ techplan.cityofchicago.org

News @ digital.cityofchicago.org

Data @ data.cityofchicago.org

Maps @ opengrid.io