

Town of Morrisville becomes a data-driven community and creates cost-effective Smart City through open data

Nearly

82,000

Annual API calls

16

Datasets

2,900

Users

CONTEXT:

BUILDING A COMMUNITY THROUGH SMART TECHNOLOGY

Situated at the heart of the North Carolina Research Triangle area, the Town of Morrisville has a population of nearly 30,000.

While a relatively small municipality, Morrisville is committed to embracing smart technology and data to deliver enhanced services that attract and retain citizens and businesses.

Morrisville has ambitious plans to use technology to enhance the lives of its diverse, technically literate citizens, many of whom work within the Research Triangle's world-renowned IT sector.

CHALLENGES:

BECOMING A SMART CITY TO ENABLE GROWTH

With limited resources, becoming smarter through technology requires a cost-effective approach, based on the needs of residents and businesses. Morrisville knew it had to adopt an approach that balanced innovation with available budget to maximize results from its investment.

“We want to use technology to enhance the lives of our citizens and the performance of our staff. That means becoming a data-driven, community-focused town. Data will drive everything in the future, so we want to make it available for everyone to use.”



Billy Whitehead
Smart City Program
Manager



DATA EXPERIENCE: TAKING A COST-EFFECTIVE APPROACH, DRIVEN BY DATA

Morrisville understood the power of Smart City technology and open data to meet the changing needs of its citizens. Supported by the Town's council, it therefore set multiple objectives for its Smart City program, including:

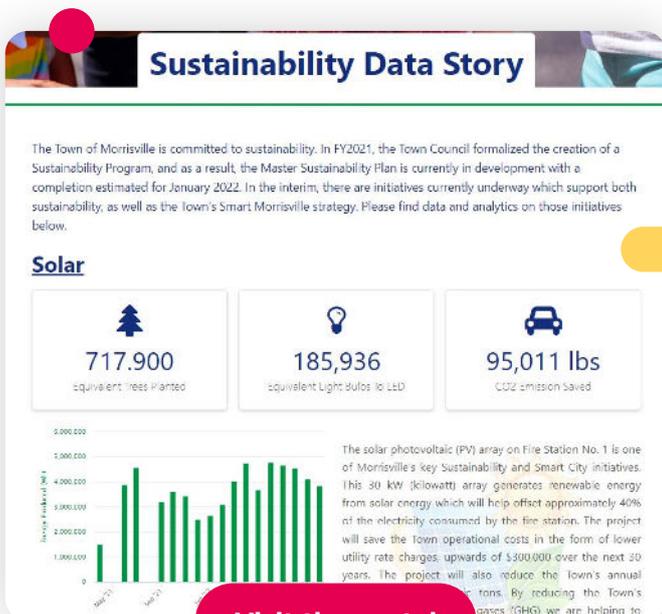
- ▶ Collaborate with community members to optimize service delivery through innovative solutions.
- ▶ Deploy technology to improve operational efficiencies and promote transparency through the Town's open data program.
- ▶ Develop partnerships with local technology providers to support technology incubation and optimize partner ecosystem.

In 2019, the Town created its Smart Morrisville program with those and other objectives in mind. Based on extensive research with citizens, businesses, internal Town departments, and councilors, this evaluated potential Smart City initiatives according to investment costs, required implementation efforts, and overall business value.

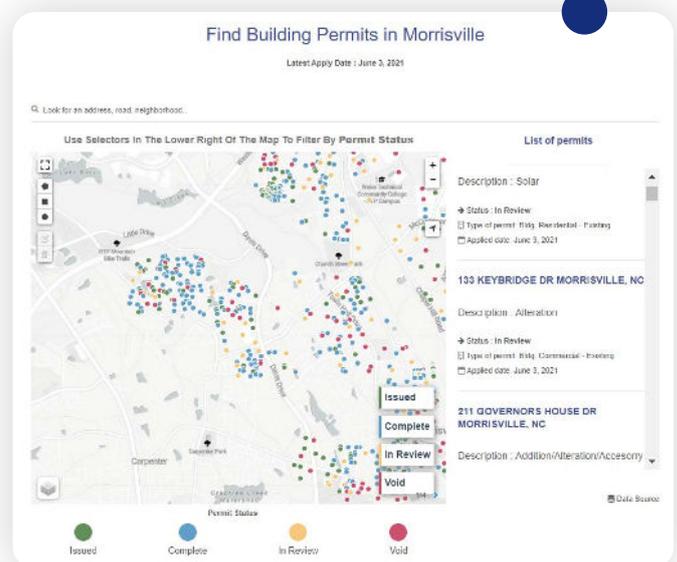
As part of the strategy, it selected Opendatasoft (ODS) to provide the platform to underpin data sharing through its new open data portal and other initiatives, such as a planned mobile app.

By taking a step-by-step approach, Morrisville has been able to focus on its most pressing needs, beginning with its Connected Parks project. Internet of Things (IoT) flood and ground moisture sensors were installed at one of its parks and across its soccer pitches. If the park floods or the fields are too wet for play, this data triggers an automatic closure of the park gates, with digital signage at the entrance explaining which part of the park is closed. People can sign up online to get text alerts on closures, or view Morrisville's Smart City dashboard to see the latest status. The aim is to deliver information quickly in a way that suits people's needs, pushing it to them without them having to call a weather hotline for updates.

A second project harnesses open data to increase transparency and efficiency. Information on all permit applications, such as for building alterations, is available through a drill-down map. Citizens can see the exact status of their application, avoiding the need for them to call Town Council members, and therefore freeing up staff time to focus on more complex queries.



[Visit the portal](#)



Thanks to its Smart City and open data foundations, Morrisville is now accelerating its plans. It recently began publishing police incident data, which will be mappable by location and can be easily analyzed by topics, such as area and type of offense. On the Smart City side, it is introducing IoT smart trash sensors with 3D-printed enclosures that they aided in developing with a local vendor. These sensors will automatically detect when trash cans are nearly full and require emptying. Previously, monitoring trash can status required four staff to drive around the Town, taking two to three hours per day, and creating unnecessary transport emissions.

BUILDING AN APP BASED ON DATA: CREATING A SINGLE SOURCE FOR INFORMATION

Based on the needs of its residents, Morrisville is creating a new app that enables seamless engagement between residents, Town staff, and more groups in the future. Residents will be able to learn about forthcoming events happening in the Town, report incidents (such as potholes), and book rides on the municipality's Smart Shuttle transport system.

The app will draw on open data, such as lists of amenities within the Town and road closures due to construction work, combining it with Smart City data to show the status of pitches, occupancy of tennis courts, and how busy areas such as greenways and fitness centers are. The overall aim is to provide a one-stop shop for citizens and businesses, based on real-time data.

OPENDATASOFT: THE ALL-IN-ONE PLATFORM FOR DATA SHARING AT THE TOWN OF MORRISVILLE

After considering several options, Morrisville chose Opendatasoft based on the close fit for its needs and recommendations from other customers, such as the nearby Town of Cary. Thanks to Opendatasoft, Morrisville is underpinning all its initiatives with a single, easy-to-use data platform that adapts to meet its changing needs. In particular, Morrisville is benefiting from three key ODS features:

AUTOMATIC APIS

Opendatasoft generates an API for every dataset on the platform. For example, the Town's mobile app will include an interactive map. If new civic amenities open, they are added to the underlying Opendatasoft dataset, and the API will automatically update them.

POWERFUL PROCESSORS

Morrisville can easily modify incoming data, using our wide range of processors. For example, abbreviated days of the week or months of the year are automatically updated to their full form, making the data more readable by citizens.

STRAIGHTFORWARD PLATFORM

Morrisville has a small Smart Cities team of two, meaning that it requires a platform that is easy-to-use and quick to deliver results but is also feature-rich for more advanced users.



Opendatasoft architected its solution on AWS as an IaaS and leveraged AWS's comprehensive, secure, scalable, and cost-effective portfolio of services, including Amazon RDS, Amazon Elb, Amazon ElastiCache. This allowed the Town of Morrisville to gain maximum value from its data sharing project with Opendatasoft as part of its innovative Smart City initiative.

RESULTS: CREATING A COST-EFFECTIVE SMART CITY

With the help of ODS as a data platform, Morrisville has been able to create and extend its Smart City program. In particular, it has been seeing results in three key areas:

Saving time for residents and increasing transparency

Information is easily available via the open data portal, Smart City dashboard, and – soon – the mobile app. This means there is less need for citizens to contact municipal offices with queries across a wide range of areas, saving time for all. By opening data, such as around current spending against budget, Morrisville is demonstrating transparency and building engagement. Over 2,900 people have now accessed the open data portal, which annually gets nearly 82,000 API calls.

Boosting efficiency across the municipality

Automating previously manual processes, such as checking on trash can levels, frees up staff time, which can be spent on more value-added activities. Automating processes saves the Town money, and enhances staff experiences, making their jobs more fulfilling.

Enabling award-winning innovation

Morrisville's Connected Parks project has been honored with awards from organizations such as IDC, the Smart Cities Council, Smart50, and the Research Triangle Cleantech Cluster, demonstrating its open data innovation.

“Our dream is a world where anything a citizen might want to ask about is already available through our open data portal. Opendatasoft really shares that vision. They bring great experience from working with a whole range of other customers, helping Morrisville innovate and come up with new ideas that will enhance the citizen experience.”



Billy Whitehead
Smart City Program
Manager



“Morrisville's success really demonstrates that any municipality can become a Smart City, whatever its size. Through a combination of innovation, openness, and flexible technology, it is cost-effectively delivering on the needs of its citizens, businesses, and employees. It provides a model for other towns looking to harness technology for the public good.”



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Customer Success
Manager

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