



Case study

Historic West Springfield rethinks streetlighting for the modern era.

Verizon and RealTerm Energy partner to deliver intelligent LED lighting that reduces energy use, cuts costs and addresses safety concerns.

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Executive summary

Back when West Springfield, Massachusetts was settled in 1635, its citizens fought the long, dark New England winters with tallow candles and whale-oil lamps. Next came gas streetlights followed by electric streetlights with incandescent bulbs. Now the historic town is lit by more than 2,000 LED lights with intelligent lighting controls. The lights are bright, energy-efficient, controlled centrally—and they save money. Better, smarter lighting and big savings? It's a winning combination for West Springfield—and many other forward-thinking municipalities.

The challenge: Inefficient, expensive streetlights

For years, the city's streetlighting posed a challenge to West Springfield's leaders. These lights included a mix of lighting technologies—sodium vapor, mercury vapor, and others. Each provided light, but came with inherent technological shortcomings. The streetlights weren't particularly bright, and their output often dimmed over time. They required regular maintenance, since the town had to replace burnt-out or malfunctioning lights. The streetlights could be set on timers, but on/off was about the extent of the lighting controls.

Behind these operational challenges lurked a financial elephant in the room—West Springfield was spending \$414,000 annually for underperforming lighting. This expense was particularly challenging due to the financial uncertainty created by the COVID-19 pandemic. And outmoded lighting certainly wasn't in sync with West Springfield's commitment to reducing its energy use to meet the aggressive targets set by the town—a 20 percent reduction in energy use over 4 years.



The change: Visionary governance and a commitment to reducing energy use

For mid-sized towns like Springfield (population approximately 30,000), more immediate priorities can often sideline innovative upgrades to the town infrastructure. Not Springfield. "We're a green community, so during the last five years, we've been doing a lot of energy-reduction projects," says Scott Moore, director of West Springfield's central maintenance department. "Installing intelligent lighting was on our wish list for years. When our new mayor came in, he decided it was time to do it. So we went to the town council, got funding, and moved ahead."

Mayor William Reichelt, Moore, and their team had several goals for the project. They wanted to:

- Cut costs by updating the town's 2000+ streetlights to LED lighting
- Get more control over their lighting
- Improve the quality of the light
- Keep the town's streets more comfortable and safer at night
- Cut the annual operating cost of streetlighting
- Identify new ways to save money

The solution: A complete overhaul of the town's lighting and lighting controls

To achieve these goals, West Springfield chose to deploy Verizon's cellular-based Grid Wide Intelligent Lighting solution, which attaches a lighting control node that comes integrated with Verizon's highly reliable 4G LTE network to connect each LED streetlamp to a cloud-based central management system (CMS). The Verizon Grid Wide Intelligent Lighting solution uses the CMS to control the town's networked lighting. This proven, remote-based lighting solution makes the town operations more efficient—and able to respond quickly to resident issues.

The team: A model of partnership

Massachusetts was one of the first states to mandate that its electric utilities recognize smart controls and establish metered billing. So West Springfield's leadership had support and financial incentives from its energy provider. And it had a critical partner in the project, RealTerm Energy, which provided its expertise in designing and implementing successful smart lighting projects.

“LED upgrades with smart street lighting systems are sustainable, practical and cost-effective ways to decrease energy usage and expenses.”

— Mark Carter, Vice President
Smart Solutions, RealTerm Energy

“With smart technologies, small cities and municipalities like West Springfield become smarter by addressing citizen concerns, such as safety issues and improving quality of life for their communities,” continues Carter.

Verizon worked closely with RealTerm Energy to implement the Verizon Grid Wide Intelligent Lighting platform, including Verizon Light Sense smart controls. These innovative controls transform the town's LED fixtures into sensor-equipped smart devices that capture and transmit data and enable centralized control via the integrated reliable, highly available Verizon LTE connectivity that keeps the whole solution connected and communicating.

The benefits: Better light, increased safety, more control

West Springfield residents are noticing (and appreciating) the new streetlights. “We put before and after photos up on social media and people could see the difference,” says Moore. “They like the quality of the new lights.” Besides brighter lighting, the new streetlights can also improve safety perceptions and the quality of life in the community.

Verizon smart controls allow West Springfield to schedule lighting throughout the town, as well as dim or increase lighting when necessary. The system can also identify outages and pinpoint specific lights that need attention. Now Moore and his team can monitor the town's lighting centrally and remotely, without having to send out crews to check on conditions visually. And remote access gives Moore the freedom to control the lighting from almost anywhere, thanks to the wide availability of the Verizon network.

The results: Significant savings and lower ongoing costs

Lighting and lighting control work hand-in-hand to deliver impressive results to West Springfield. Thanks to greater efficiency of LED lights, the streetlight project will push the town over its goal of reducing energy use by 20 percent, according to Moore. He continues, “Besides reducing energy use, there are substantial cost savings for the town.”

West Springfield's Scott Moore estimates that the LED streetlight replacement project will

save more than

\$300K a year

by reducing annual lighting costs from \$414,000 to \$110,000—or a

73% annual savings

Verizon smart controls enable the town to dim lights during under-used periods and in targeted areas, achieving additional energy savings. Other savings enabled by the Verizon Grid Wide Intelligent Lighting solution include lower maintenance and reduced “truck roll” costs (the cost of sending crews out to investigate or repair lighting). And the improvements go beyond financial. Now the town can help ensure safety concerns are addressed by responding to citizen requests quickly.



The future: More control means more savings

Projects like West Springfield's lighting infrastructure upgrade show that smart lighting isn't just for big cities—it's for forward-thinking municipalities of all sizes that want to address safety concerns, reduce energy use, and cut costs. Beyond the Verizon Grid Wide Intelligent Lighting solution, West Springfield can tap the potential of a wide range of IoT-based smart city solutions in the future—including smart metering, smart parking, building energy management and more.

Since the project was completed in late 2020, the West Springfield team has been exploring the capabilities of the new Verizon smart controls, looking for new ways to enhance the community while saving taxpayer dollars. “The new lighting reflects the direction we're heading as a town,” says Moore. “I already have remote access to most of the town buildings and building maintenance systems. Now I can control our lighting and address any issues from wherever I happen to be, not just in the office.”

This streamlined, smarter approach works for West Springfield, a town rich with history—and committed to a green future.

Learn more.

To find out more about Verizon Grid Wide Intelligent Lighting and other solutions, contact Verizon today.

enterprise.verizon.com/intelligentlighting

Verizon solutions: Lighting the way to a smarter future

Verizon solutions can help municipalities like yours quickly and cost-effectively support initiatives for managing roadways, utilities and transportation systems.

Grid Wide Intelligent Lighting

Helps you control costs and save energy by regulating light levels based on the surrounding environment.

Grid Wide Intelligent Energy

Verizon IoT solution that helps municipalities take advantage of the ability to connect their critical systems for greater efficiency, control and savings.

Traffic Data Services

Delivers near real-time insights and historical analysis about traffic flow to help planners minimize congestion, plan future multimodal transportation and improve land use.

Parking Optimization

A cloud-based, managed service solution that uses computer vision analytics to optimize revenue and create better parking experiences.

Intelligent Video

With video monitoring and edge analytics, Intelligent Video makes it possible to get data on remote property and assets without investing time and resources on streaming footage.

Real Time Response System

Integrates large amounts of data from multiple sources in order to provide enhanced situational awareness to help improve decision making.



*Source: <https://www.wvlp.com/news/local-news/hampden-county/west-springfield-installing-led-street-lights-to-improve-save-energy/>

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