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Protect What Matters Most: A Resilient Asset Management Guide for Local Government

Supported by Brightly Software research, real-world case studies from Beaufort County Government (SC) and a city in California, and the Operational Ecosystems sustainability framework.

Table of Contents

Introduction

The Stakes Have Never Been Higher

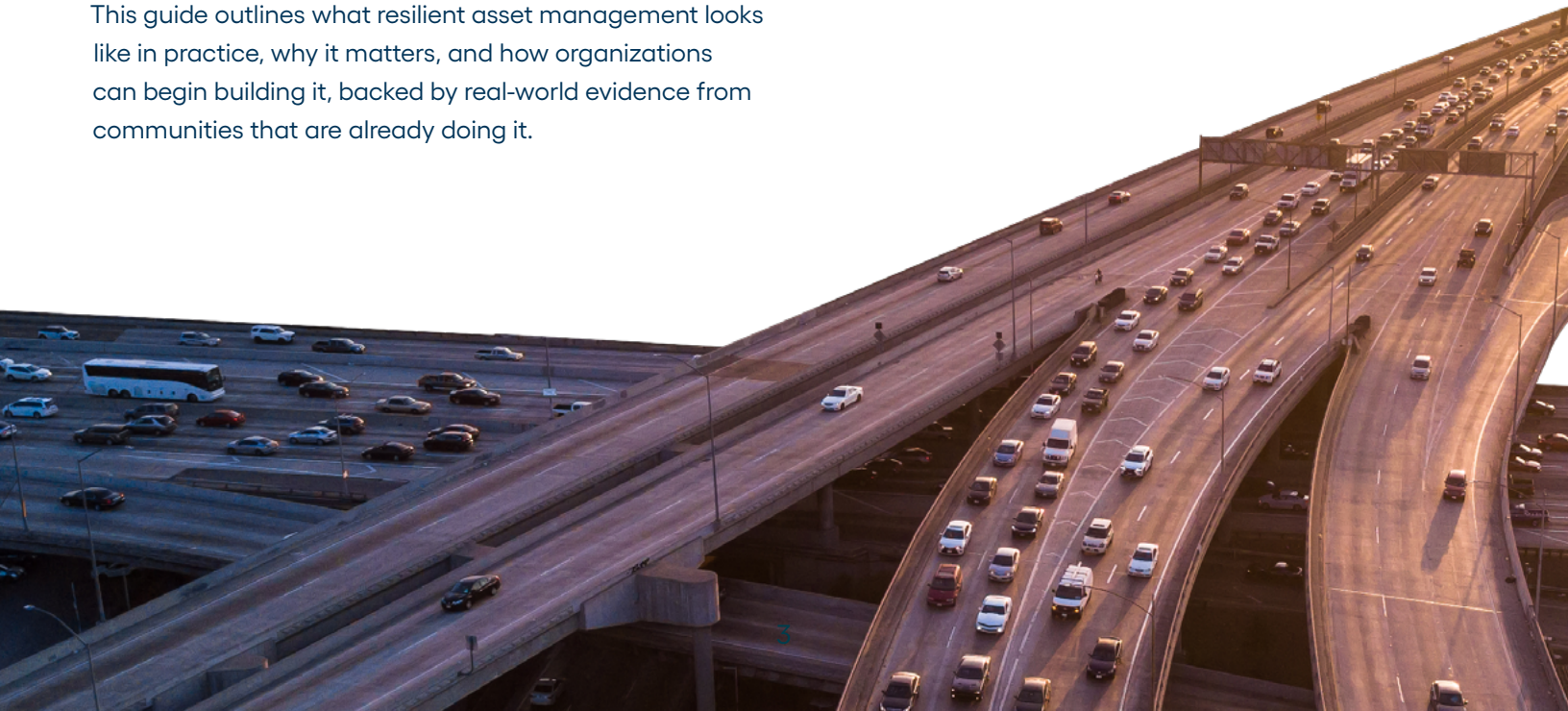
Public infrastructure is under pressure like never before. Aging assets, tightening budgets, climate-related disruptions, and rising public expectations are forcing local governments to fundamentally rethink how they manage the systems that communities depend on every day.

Traditional asset management has long helped organizations extend asset life, balance costs, and prioritize repairs. It is essential work. But today, maintaining assets is no longer enough on its own. The bigger question is whether those assets can continue delivering critical services when conditions are anything but normal.

That is where **resilient asset management** comes in.

Resilient asset management represents a shift from a **maintenance-first mindset** to a **service continuity mindset.** It asks organizations to look beyond the condition of a pipe, road, pump, or facility and focus on the role that asset plays in everyday life. If a water treatment plant fails, the issue is not just equipment downtime — it is the loss of safe drinking water for thousands of residents. If a roadway floods, the issue is not just pavement damage — it may mean blocked emergency access, business disruption, and risks to public safety.

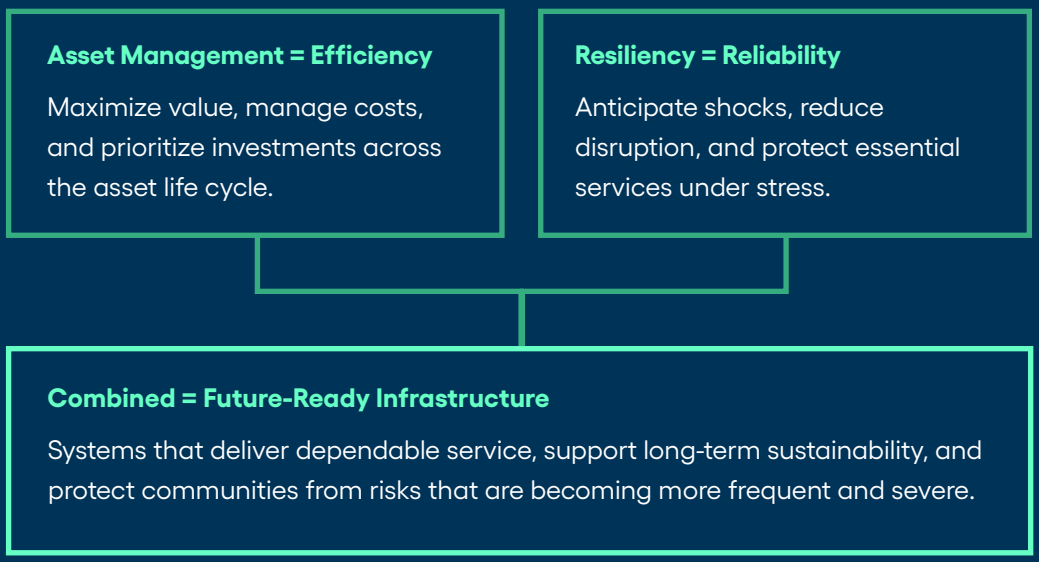
This guide outlines what resilient asset management looks like in practice, why it matters, and how organizations can begin building it, backed by real-world evidence from communities that are already doing it.



Part 1

Redefining the Goal: From Maintaining Assets to Sustaining Services

At its core, resilient asset management brings together two complementary disciplines:



> The fundamental question shifts from "How do we maintain this asset?" to "How do we sustain the service this asset provides?"

This distinction matters enormously in practice. Citizens may never ask about your asset inventory or condition scoring model, but they absolutely care whether the water is clean, the roads are passable, and critical services continue during storms, heatwaves, or other disruptions. That is the real measure of infrastructure performance.

Part 2

Rethinking Risk: From Asset Failure to Community Impact

Most asset management programs already use risk-based decision-making: assessing age, condition, maintenance history, and likelihood of failure to determine what should be repaired or replaced first. This is a strong foundation, but resilient asset management expands the conversation.

> Instead of only asking, "How likely is this asset to fail?" resilient organizations also ask, "What happens to the community if it does?"

In traditional models, the consequence of failure is often measured in terms of repair cost or operational inconvenience. In resilient asset management, consequence includes:

- **Service disruption:** loss of water, power, access, or shelter
- **Public safety:** blocked emergency routes, compromised hospitals or schools
- **Economic impact:** business closures, productivity losses, recovery costs
- **Environmental harm:** spills, contamination, or ecological damage
- **Community trust:** the erosion of public confidence that follows every prolonged outage or boil-water advisory

Consider a small bridge in poor condition. On paper, it may not appear to be a high priority because it carries limited traffic. But if it is the only route for emergency vehicles to reach a neighborhood, its importance changes immediately. Or think of a pump station that is relatively new and functioning well today, but located in a floodplain, making it a long-term risk that outweighs many older assets in safer locations.

This broader perspective helps organizations allocate resources not just to the oldest or worst-looking assets, but to the ones **most essential to public safety, service continuity, and recovery.**

In The Real World

South Carolina's Beaufort County Government discovered this principle firsthand. When Facilities Director Frank Stroncheck conducted a full-scale Facility Condition Assessment across 700,000 square feet of critical buildings, the data revealed $24 million in deferred maintenance — risk that had been invisible without systematic assessment. By surfacing this through Brightly's CMMS platform, the county could finally prioritize maintenance not just by age, but also by consequences. "The data gives you a solid voice," Stroncheck noted — a voice that secured increased funding and five additional technicians to address the most critical gaps.

Read more →

Part 3

The Three Pillars of Foundational Data

Resilient asset management does not begin with grand strategy; it begins with good data. Without accurate, accessible information about what you own, what condition it is in, and what it costs to maintain, every planning decision is built on guesswork.

The three foundational data pillars are:

A Computerized Maintenance Management System (CMMS)

A CMMS is the operational backbone of any asset management program. It tracks work orders, maintenance histories, labor hours, parts usage, and service levels, giving teams the visibility they need to move from reactive firefighting to planned, proactive maintenance.

An Asset Registry

A comprehensive, up-to-date inventory of every asset — its location, age, condition, criticality, and maintenance record — is the foundation for all risk-based decision-making. Without it, organizations are managing infrastructure they cannot fully see.

Long-Term Planning

Capital improvement plans, lifecycle cost models, and multi-year investment strategies connect today's maintenance decisions to tomorrow's service outcomes. They transform asset data into defensible, forward-looking investment decisions.

In the Real World

A city in California's Municipal Services Manager used exactly this approach when he joined the city. By reviewing historical work order data in Brightly's Asset Essentials platform, he identified a pattern of repeated circuit resets and HVAC service calls, which led to the discovery that city buildings were running **17 portable space heaters** in a single 5,000-square-foot facility that were fighting directly against the air conditioning system. That data-driven insight is now projected to save the city close to **$500,000 per year in electricity costs.** The Municipal Services Manager has since initiated 5- and 10-year capital improvement plans that turn this operational data into long-term strategy. "That's my entire direction at this point — trying to gather as much information and go in the direction I need to go to create an accurate five- and 10-year budget."

Read more →

Part 4

Life-Cycle Planning Under Changing Conditions

Asset management has always taken a life-cycle view of infrastructure — from design and construction through operation, maintenance, rehabilitation, and replacement. Resilience strengthens this by **challenging the assumptions** built into those life cycles.

Roads designed for historical weather patterns may deteriorate faster under more frequent freeze-thaw cycles or prolonged heat. Water and wastewater systems may need materials that can better withstand corrosion, flooding, or shifting soil conditions. Infrastructure built for yesterday's climate may not perform as expected in tomorrow's environment.

This leads to **adaptive asset management,** which uses replacement cycles not just to restore what existed before, but to also upgrade for the conditions likely to emerge over time.

> Rather than replacing a failing pipe with an identical one, resilient organizations ask: What will this asset need to withstand over the next 50 years?

The goal is not to overbuild everything. It is to make informed decisions at the right time, based on better data and better foresight.

In the Real World

Beaufort County's data-backed approach to lifecycle planning extended asset lifespans by four years, generating a projected $4.2 million in savings every five years. This was not achieved through a single large capital investment, but through the consistent, data-driven application of preventive maintenance and proactive planning, exactly the kind of adaptive life-cycle management that resilience demands.

Part 5

Understanding Interdependencies: The Hidden Risk Multiplier

One of the most underappreciated aspects of resilient asset management is the role of **system interdependencies.** Infrastructure does not operate in isolation. Roads connect to emergency services. Water systems depend on power. Schools rely on HVAC. When one system fails, the effects cascade.

A flooded road does not just damage pavement, it may cut off a hospital. A power outage does not just affect lights, it may disable a water treatment plant. A failed pump station may trigger a sewage overflow that contaminates a waterway relied upon by an entire region.

> **Resilient organizations map these interdependencies deliberately, identifying which assets are critical nodes in a broader service network and prioritizing their protection accordingly.**

In the Real World

A city in California's experience with portable heaters is a vivid example of an unrecognized interdependency: heating systems and cooling systems working against each other, creating cascading electrical failures (repeated circuit resets), HVAC service calls, and unnecessary energy expenditure that were all invisible until someone looked at the data holistically. Recognizing this system-level interaction, rather than treating each service call as an isolated incident, was what unlocked the $500,000 annual savings.

Part 6

Investing Where it Matters Most

Resilient asset management does not necessarily mean spending more. It means **spending smarter** by directing limited resources to the assets and systems whose failure would have the greatest impact on community services.

This shifts the investment logic from a "fix what is oldest" approach to a "protect what matters most" approach. It means:

Prioritizing

assets at the intersection of high hazard exposure and high service criticality.

Modeling

multiple funding scenarios to understand trade-offs before committing capital.

Building

defensible, data-backed cases for investment decisions that leadership and the public can understand and trust.

Strengthening

readiness for grant funding by demonstrating a clear link between infrastructure spending and community outcomes.

In the Real World

Both case studies demonstrate this principle powerfully. Beaufort County's Stroncheck used FCA data and CMMS reporting to secure increased maintenance funding and justify five new technician roles — investments directly tied to demonstrated service risk. The city in California's Municipal Services Manager brings Brightly dashboards to weekly executive meetings to build the case for additional staffing as the city prepares to open a new stadium and aquatics center. In both cases, the investment argument was not anecdotal, it was evidence-based, specific, and tied directly to service delivery outcomes.

As the **Operational Ecosystems** report from Brightly Software reinforces, this kind of data-driven approach transforms budget conversations across every sector:

> When sustainability is supported with asset management tools, organizations gain visibility into how their systems are performing against established metrics and goals. Using this actionable data, facilities teams can streamline workflows, develop proactive, predictive maintenance routines, and create effective capital plans.

Part 7

Building Community Trust Through Service Continuity

People often do not notice infrastructure until it fails. Sewer backups, boil-water advisories, and impassable roads erode public trust quickly and visibly. Conversely, when services continue through disruption, or are restored rapidly because organizations planned ahead, **public trust grows.**

Resilient asset management is ultimately a form of **proactive governance**. It demonstrates to communities that:

Their essential services are being protected, not just maintained.

Public funds are being spent on the right priorities, backed by data.

Leaders are planning for the future, not just reacting to the present.

This is not an abstract benefit. It is visible in dependable service, better public communication, and stronger emergency preparedness.

In the Real World

Beaufort County's transformation illustrates this cultural dimension clearly. By moving away from an outdated, reactive work order system to a transparent, data-driven platform, the department fostered a culture of accountability and public stewardship. Stroncheck's approach — using data to demonstrate need, justify investment, and communicate progress — is exactly what resilient governance looks like in practice. As he put it:

> We wanted Brightly's asset management system so that we could have the data to show that we needed more money, which proved that we needed more staff. The data gives you a solid voice.

A Framework for Getting Started

Resilient asset management is not built overnight, but it does not require a perfect starting point either. Organizations can begin wherever they are:

1. Know what you own

- → Build or update your asset registry
- → You cannot manage what you cannot see

2. Assess condition and risk

- → Conduct Facility Condition Assessments (FCAs)
- → Surfaces hidden risk and deferred maintenance

3. Implement a CMMS

- → Centralize work orders, maintenance history, and labor tracking
- → Enables data-driven decisions and trend analysis

4. Expand the risk lens

- → Incorporate service criticality and community impact into prioritization
- → Moves from asset-centered to service-centered planning

5. Plan adaptively

- → Develop 5- and 10-year capital improvement plans
- → Connects today's data to tomorrow's investment decisions

Conclusion

Infrastructure That Serves People When It Matters Most

The goal of resilient asset management is not simply to keep infrastructure in service. It is to keep **services dependable when people need them most:** on ordinary days and on the hardest ones.

That requires a shift in mindset — from reactive to proactive, from asset-centered to service-centered, from anecdotal to data-driven. It requires organizations to not only ask, “Is this asset failing?” but also, “What does this community lose if it does?”

The good news is that this shift is achievable, and the evidence is already there. Beaufort County Government turned a lightning strike into a catalyst for systemic transformation, securing millions in projected savings and building a platform for long-term resilience. The city in California turned a pattern of circuit resets into a half-million-dollar annual energy saving and a roadmap for predictive maintenance. Both did it by committing to the same foundational principle: **let the data tell the story.**

Done well, resilient asset management brings together efficiency and reliability. It helps organizations maximize the value of infrastructure while preparing for risks that are increasing in frequency and severity. And it ensures that infrastructure investment is not just about repairing the past, but about **protecting the future.**

About Brightly Software

Brightly Software, a Siemens company, enables organizations to manage the entire lifecycle of their assets, facilities and infrastructure. As the global leader in intelligent asset management solutions for more than 25 years, Brightly's sophisticated cloud-based platform is expertly designed to improve capital planning through smarter, data-driven decision making, empower technicians to predict, prioritize and manage preventative maintenance activities, and support organizations to achieve sustainability, compliance and efficiency goals. Combined with award-winning training, legendary support and managed services, more than 12,000 clients worldwide depend on Brightly to optimize their teams, operations and strategic planning initiatives. For more information, visit **brightlysoftware.com**

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