

# Why Strategic Asset Management Matters

BY ASHAY PRABHU

**T**hink of a bustling town along the bank of a river, a hub of local tourism and industry. All day, every day, locals and visitors rely on the bridge that spans the river to get to work, take their kids to school, visit family and friends, and get about the business of daily life. One day a citizen reads a news report about aging infrastructure—specifically, that 45,000 bridges in the United States are structurally deficient. They're a little worried, but they think this can't apply to their bridge, since the town is so dependent on it. But the citizen keeps thinking about that article, so they finally ask the city when the bridge is due to be replaced.

The City's accountant in charge of reporting on the City's assets may respond that the bridge should be replaced when it reaches the end of its useful life—in this case 12 more years calculated on an original useful life of 50 years for city infrastructure assets.

The accountant is referring to the city's capital asset registry, which is based on historical data and use for financial reporting. The public works director sees it differently, saying the city's engineers have done a health assessment on the bridge and it only has five years left. The town will need \$380,000 in the next five years to fix it.

Why would there be two answers to one simple question? The reasoning differs by source: the CFO is referring to the financial register based on historical data and the public works director is referring to the current health assessment. And it's very likely that the work crew responsible for maintenance has an entirely different view based on day-to-day experience.

## What to address, and when

Finance officers are now increasingly asking important questions about long-term financial planning and how it relates to asset management. Australia mandates planning for infrastructure provision beyond the 10-year horizon for all local governments. Canada has followed suit. And regardless of legislative and industry pressures, public agency professionals already know that they need to justify why and where money is spent in order to ensure that their communities' essential infrastructure assets are optimized and protected.

The public sector is the custodian of billions of dollars in essential assets: utility infrastructure, highways, hospitals, schools, ports, and more. These assets inevitably deteriorate, requiring maintenance and eventually replacement. For example, a government managing

facilities and infrastructure with a value of \$1 billion is consuming these assets (or the assets are being degraded) at a rate of two to three percent a year. This amounts to \$20 to \$30 million in needed investment—every year. However, it must be allocated correctly and spent on projects that provide the most value in the long-term.

Governments can use strategic asset management—a future-focused modeling methodology that is specific to long-life facilities and infrastructure assets—to figure out what to address and when. Financial officers can use it to balance funds against the community's real needs and the condition of its assets to make sure the services it delivers are sustainable and safe. With strategic asset management, forecasting and data analysis provide options and scenarios for what the future may hold if certain levers in decision-making were pushed or pulled in different directions. [See Exhibit 1.]

In the United States, public sector and asset management professionals are—understandably—focusing on fixing the assets with an “E” rating or worse, based on the American Society of Civil Engineers ratings. [See Exhibit 2.] These assets are potentially dangerous, and governments need to keep their residents safe. The focus on immediate safety is easy to understand, but it's also worth questioning.

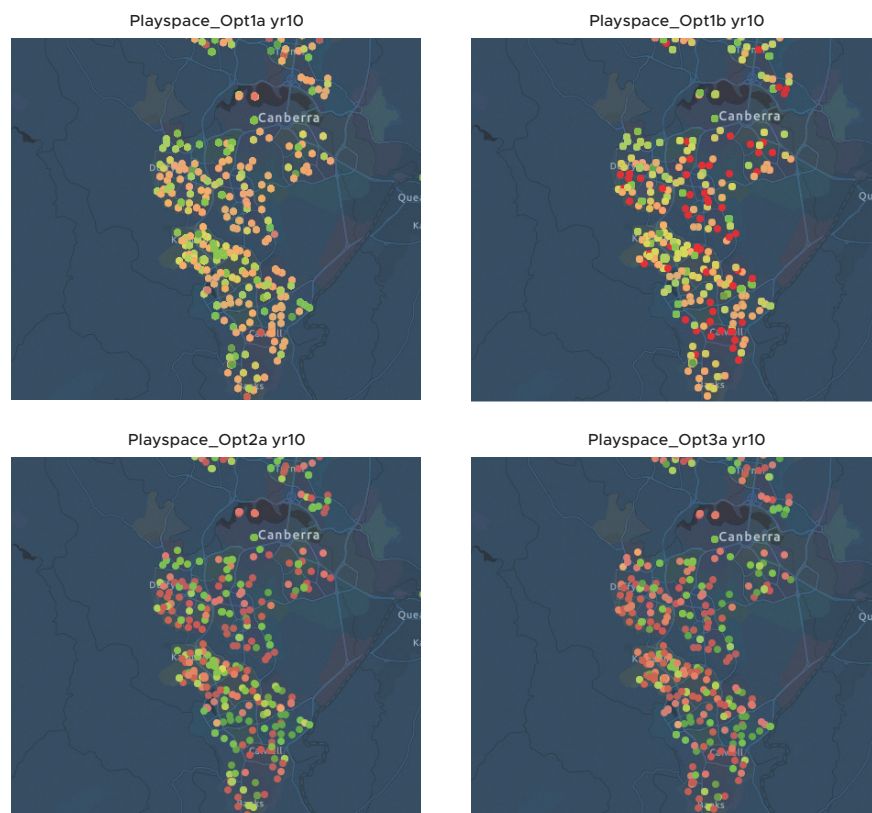
Strategic asset management looks at infrastructure management a bit differently, encouraging an objective assessment of which asset requires which treatment at which time in order to achieve a community's defined service goals. Sometimes it makes sense to just fix an "E+" asset, making it safe and serviceable without otherwise improving it. And sometimes it's more cost-efficient, effective, and faster to do some work on a "C" or "D" asset than to ignore it. In these cases, intervention can prevent the asset from entering the dreaded penultimate phase of life, where it costs potentially up to five times more to revive it.

### Costs and maintenance

Maintaining assets according to strategic asset management methodology reduces asset degradation rates significantly—by up to 50 percent a year. Applied to that \$1 billion facilities portfolio, the annual savings would come to \$10 million to \$15 million.

First, let's explore this economic rationale. If a government has ten buildings in its portfolio, the decision to treat an E-graded asset instead of a C-rated one is simple. But for our hypothetical \$1 billion portfolio, which contains significantly more than 10 buildings, a government would look at the components rather than at the overall building asset condition in order to make accurate treatment decisions. Let's say that portfolio is made up of 100 buildings; the potential size suddenly exceeds 10,000 unique and competing components. Extrapolate this over 10+ years to ensure funding is allocated optimally—to the right asset, to the required components, and at the optimal time to best extend the lifespan of the asset—and strategic asset management presents a great opportunity to unlock significant hidden dollars. For an organization with 300 or more buildings, or 600 miles or more of roads or pipes, or scores of bridges, solving this problem

**EXHIBIT 1: OPTIONS AND SCENARIOS PROVIDED BY STRATEGIC ASSET MANAGEMENT**



becomes increasingly relevant and could lead to huge potential savings and reduced risk—for example, a rating far higher than a D.

Secondly, consider the service-level rationale, that assets do not exist for their own sake. They exist only to serve communities' and users' needs, which shift and change—as 2020 highlighted perhaps more than ever before in recent history. Strategic asset management is the data-driven approach that empowers the professionals responsible for these assets with the systems and framework to manage change in service needs transparently, confidently, and efficiently, and to ensure that those services are delivered.

### Strategy in action

Strategic asset management gives the organization one voice, answering important questions like how much funding is needed, where the money will be spent, and which assets are likely to fail. And if a government has 5,000 competing assets (or 1,000, or 500), this strategy ensures that scarce funding is allocated in a way that delivers the best result over 10+ years, not just the next one to three years. There are three steps to putting this strategy into action:

- **Understand the assets.** Identify exactly which assets the organization has responsibility for and compile relevant information such as age, location, and condition through data



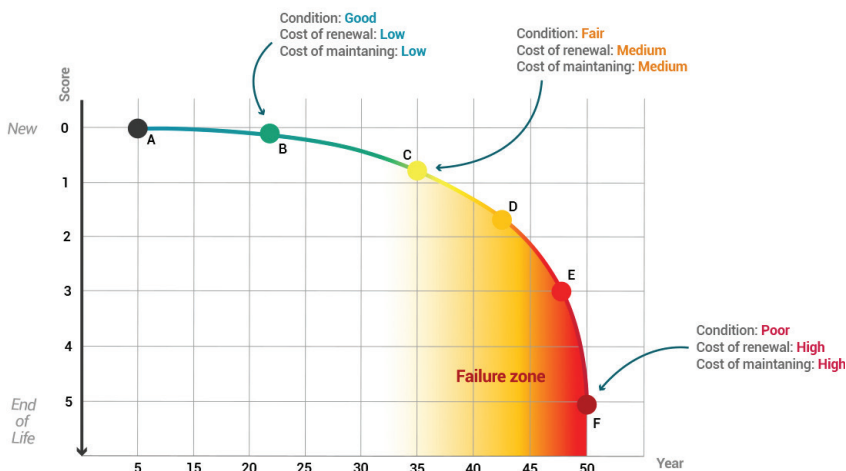


The City of Topeka, Kansas, used strategic asset management to establish the necessity of one of their transport taxes to protect roads condition and maintenance.

collection activities. This helps identify where each asset is in its lifecycle, based on condition data.

- **Set up a framework.** Tap into internal and external experts to create a framework for evaluation options and determining when to intervene for each asset. Identify the points where investment might be appropriate, along with the cost of treatment and its impact on asset condition and portfolio-maintenance costs.
- **Make better decisions.** Apply the framework to provide clarity about available options. At this point, financial optimization models are used to determine the best combination of investments across the portfolio. Modeling software can be used to determine the type, timing, and level of investment that will produce the lowest renewal and maintenance costs and deliver the best service.

**EXHIBIT 2: RENEWAL AND MAINTENANCE COSTS INCREASE AS THEY DEGRADE FROM “A” TO “F” ON THE AMERICAN SOCIETY OF CIVIL ENGINEERS RATING SCALE**



The City of Topeka, Kansas, provides an example. The city government asked, “If we remove one of our transport taxes, what will the impact be in the future?” Staff used strategic asset management to answer this question based on data-driven forward prediction rather than historical assumptions. Staff were able to present evidence showing that reduced funding would have unacceptable effects on pavement condition and subsequent service goals. It was also able to provide data showing how the city would achieve outlined service goals with the current funding transparently and objectively. As a result, the tax remained in place, and everyone understood why.



In Australia, the Department of Education for Tasmania faced a classic challenge: how to manage cost and mitigate risk to essential school facilities that were reaching a critical aging point. Department staff knew this was the case but lacked evidence-based data to prove it. The department used simple data collection to provide senior decision-makers with meaningful insights and was, as a result, effectively stimulus-ready with compelling, data-driven strategies to present when funding submissions were requested in the early days of Australia's 2020 COVID-19 recovery packages.

The City of Wichita, Kansas, demonstrated prudent fiscal planning by giving their finance managers and engineers a common goal of preserving the city's buildings. Using objective condition data and return-on-investment metrics, they were able to present scenarios about the future of these assets to their leadership team and council, resetting proposed strategies and altering funding allocation based on data-driven modeling.

### Ready for change


If 2020 brought anything into sharp focus, it is the need to be prepared for change. The year brought unprecedented changes in our fundamental way of life and the nature of work, and it certainly had a major impact on already-constrained budgets. But we can manage the uncertainty of change when we understand our options and have solid, data-driven plans to support them.

Using strategic asset management helps governments unite behind a common purpose. It puts the CFO and public works director on the same page and makes staff and residents confident that the community's infrastructure is being managed effectively. This allows teams to focus on the outcomes that ultimately matter.

Strategic asset management also prepares organizations for the unexpected. Whether that's a pandemic, a natural disaster, or an unplanned budget expenditure, governments will understand both

Wichita, Kansas, used data-driven modeling and return-on-investment metrics to reallocate funding and reset strategies to preserve the city's buildings.

asset condition and community service needs, and they can confidently show proof of wise spending to secure essential stimulus funding and reassure residents.

Having a strategic asset management approach means that future generations won't be left with infrastructure costs that eat into their ability to innovate and solve even bigger problems, like health services, space travel, vaccines, robotics, and things not yet even imaginable. Embracing strategic asset management makes it possible for public agency professionals to plan for and answer these important questions, knowing they have the systems and tools in place to make decisions based on data and evidence. 

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