



The Civil Works Strategic Asset Management Plan proposes a roadmap for instilling more asset management principles into the U.S. Army Corps of Engineers' eight division offices and 38 district offices. USACE PHOTO BY BRAD KESHLEAR

Optimizing Value Through Strategic Asset Management

A recently developed asset management plan for the U.S. Army Corps of Engineers Civil Works Program seeks to improve consistency across geographic offices through standardized criteria and identification of enterprise-level optimizations for infrastructure strategy and investment.

By Peter Dodgion and Emily Seamster, PMP

The federal infrastructure that manages America's natural water resources was built primarily during the heavy construction era of the 1930s to 1970s. Principally, its mission is to support inland navigation across the United States, the transport of goods and materials for economic needs, and dams and levees that provide flood risk mitigation as well as hydropower. Additionally, the infrastructure and water resources provide recreational and environmental benefits, including fishing, boating and camping, and wetlands and wildlife

sanctuaries. Ensuring the continued success of these assets, which are overseen by the U.S. Army Corps of Engineers (USACE), requires operating and maintaining them as effectively and efficiently as possible, because there is relatively limited annual funding appropriated to the Civil Works Program.

To optimize the value of all its water resources infrastructure and facilities, USACE leadership collaborated with Woolpert to develop the Civil Works Strategic Asset Management Plan (SAMP), which, pending its approval, promises to fundamentally change how the agency does business.

IMPROVING CONSISTENCY

In 2019, USACE approved a policy that called for corporate consistency and integration in the lifecycle management of all Civil Works assets. SAMP is the response to this policy. The plan sets forth a roadmap for instilling asset management principles into the Corps. It is aligned with the principles of the International Organization for Standardization 55000 for asset management (value, alignment, leadership, and assurance) and has additional focus on the lifecycle of assets and investment decision-making.



The Strategic Asset Management Plan for the U.S. Army Corps of Engineers Civil Works Program seeks to optimize value by providing a framework to improve investment recommendations. USACE PHOTO BY DANIEL JOHNSON

By taking an organizational instead of regional approach, SAMP aims to highlight gaps that exist across the agency. It is intended to provide a framework that can be applied across all USACE divisions to improve the defensibility of investment recommendations. By providing a strategy and set of objectives in order to apply the same asset management criteria for every region, the plan aims to minimize budgeting differences among offices and identify what projects will be recommended for investments. The upshot will be the public seeing more consistency in terms of the Corps making risk-informed decisions.

SAMP states that the Civil Works asset management program “informs strategic asset investment, maximizing the existing portfolio’s value to the nation and optimizing the revitalization and recapitalization of the portfolio.” The plan seeks to establish the foundation, policy, doctrine, strategy, and procedures governing the lifecycle management of the nation’s water infrastructure that fall under USACE’s oversight and management.

COMPARATIVE PROCESS

The complexity of the Civil Works Program presents a significant challenge when implementing enterprise-level budgeting changes. The water infrastructure USACE is responsible for consists of 25,000-mi of inland and coastal waterways, 926 harbors, 400-mi of shoreline protection, nearly 100,000 environmental permits, and 3 percent of the electrical generation capacity in the United States. Flood risk management and recreational purposes of the infrastructure further adds to the breadth of the Corps’ responsibility.

While there are diverse challenges given this significant scope and the geographic variables of having a presence in all 50 states, similar projects do share common operations, maintenance, repair, and rehabilitation needs regardless of location. The question then

becomes how to optimize the continued use of those assets by applying budgetary solutions at the enterprise level, rather than the division or district levels. For example, by replacing similar failing assets at once across different operating projects, value is optimized through buying down risk and improving the performance of the whole segment of the system. Rather than centering on individual needs, SAMP calls for centering on whether proposed investments will deliver more value than a different kind of investment.

Rather than centering on individual needs, SAMP calls for centering on whether proposed investments will deliver more value than a different kind of investment.

FORWARD-LOOKING APPROACH

A predecessor to SAMP is the AM Program Management Plan, which promoted asset management principles through efforts such as the O&M 20/20 budget transformation. O&M 20/20 was implemented in 2017 and transitioned USACE Civil Works from a historic five-year average budgetary paradigm to a forward-looking and risk-informed approach linked to project performance. That framework is adaptable, defensible, transparent, consistent, and risk informed.

Utilizing Consistent Criteria. The lion’s share of the roughly \$5 billion annual budget for USACE’s Civil Works Program is intended to support operations and maintenance requirements. To establish better consistency across the enterprise, O&M 20/20 provides the same criteria for allocating funds to each of the Corps’ eight division offices and 38 district offices.

O&M 20/20 has been a departure from the previous budgeting

process, in which USACE districts were given a target based on historic averages and worked independently to identify and prioritize planned work activities for the upcoming year. The old method lacked consistency and clarity, and it did not always account for risk.

The O&M 20/20 approach, which aligns with asset management principles, reinforces a sense of categorization by motivation, risk-informed decision-making, and performance. It provides consistency at the enterprise level in how to organize the budget, prioritize it, and then rank it.

Performing Similar Activities. O&M 20/20 is buoyed further by the concept of Similar Costs for Similar Activities at Similar Operating Projects, which is intended to provide a consistent framework that establishes a range in costs and performances for recurring operations and maintenance activities/requirements for assets across all Civil Works operating projects.

For example, the missions carried out at the 715 dams operated and maintained by USACE focus on keeping the facilities in working order to control flooding, produce electricity, and enable the navigation of waterways. Whether the facility is the Hartwell Dam on the upper Savannah River in Georgia or the Bonneville Dam in Oregon, similar activities are carried out every year at varying levels of importance to maintain turbines, flood gates, and other functioning assets that are vital to the well-being and safety of communities across the United States.

The end goal is to establish the Similar Costs for Similar Activities at Similar Operating Projects framework, referred to as S3, for a good portion of the Corps' budget, in which financial needs representing recurring activities at the Civil Works operating projects are established, understood, and implemented. This enables the agency to focus on evaluating and prioritizing activities that are repair, rehabilitation, or replacement in nature.

BALANCING FACTORS

Optimizing value takes more into account than merely a monetary estimation of an asset. It is difficult to reduce a recreation area in an underserved community to an economic value when there are intangible social benefits gained from extending the life of the assets there.

SAMP borrows from trusted principles to advance USACE's operations and maintenance planning and activities through integrating organizational values and metrics that could account for these desired benefits. Results of its implementation may take years to gather—but the Corps expects to generate increased value over time with more efficiencies and effectiveness at managing its assets well into the 21st century.

TME

Peter Dodgion is Civil Works Asset Management Chief, U.S. Army Corps of Engineers; peter.k.dodgion@usace.army.mil.

Emily Seamster, PMP, is Strategic Consultant, Woolpert; emily.seamster@woolpert.com.



Through a greater adoption of enterprise risk management, USACE Civil Works will be able to better evaluate and prioritize repair and rehabilitation projects.

USACE PHOTO BY BILLY BIRDWELL