OCTAVE

EBOOK

Next stop: Productivity

Five ways software sharpens transportation program performance

Heavy cargo: Today's challenges

Transportation programs don't struggle because of a lack of ambition. They struggle because of scale, complexity and constant scrutiny.

"Transportation" spans highways, rail, aviation, ports and transit – each with distinct funding models, stakeholders and priorities. Programs cross local, regional, state and federal boundaries. Public and private agencies alike coordinate with contractors, consultants and joint ventures, all while operating under growing expectations for transparency, accountability and measurable returns.

Layer on the projects themselves: multi-year timelines, daily public impact and budgets that stretch into the billions. It's no surprise that delivery performance suffers. Project Management Institute estimates that nine out of ten megaprojects experience cost overruns, frequently over 50%.[1] As a result, agencies struggle to deliver on expectations.

Today's environment adds another variable. Once-predictable revenue streams fluctuate. Priorities shift. Yet demand for transportation infrastructure continues to rise. Allianz Research estimates the world will need roughly $4.2 trillion in infrastructure investment each year to keep pace with growth and future-proof critical systems.[2]

The question isn't whether investment will happen; it's whether transportation leaders can deliver better outcomes with the dollars entrusted to them. More predictability. More confidence. More productivity. Under constant public oversight.

So, what changes the trajectory?

[1] McKinsey & Company, "Improving the Delivery of Road Infrastructure Across the World"
[2] McKinsey & Company, "Bridging infrastructure gaps: Has the world made progress?"

“Nine out of 10 megaprojects have cost overruns, frequently over 50%.”

Project Management Institute (PMI)



Shifting gears: Why project technology matters

Transportation technology is advancing rapidly, considering connected vehicles, geospatial intelligence and AI-driven planning. But on the engineering and delivery side, productivity has lagged.

The gap isn't due to a lack of effort. It's a lack of modern tools and best practices. Too many transportation programs still rely on disconnected tools, manual reporting and delayed insight. That's where Enterprise Project Performance (EPP) software comes in.

By connecting planning, funding, execution, forecasting and performance into a single system, EPP software helps agencies and their partners regain control, turning complexity into clarity.

Here are five ways transportation organizations are using EPP software to dramatically improve program performance.



01. Capital planning

Long-range capital planning is more than allocating dollars—it's choosing the right projects.

Transportation agencies must balance growth, sustainability, safety, equity and regulatory compliance, often with constrained funding. The challenge isn't a lack of ideas. It's evaluating options consistently and defensibly.

With EPP software, agencies can score potential investments against strategic objectives, compare scenarios and test tradeoffs before committing funds. Stage-gate approvals bring alignment across stakeholders, resulting in capital plans that are transparent, supportable and resilient.

But planning doesn't stop once projects are approved.

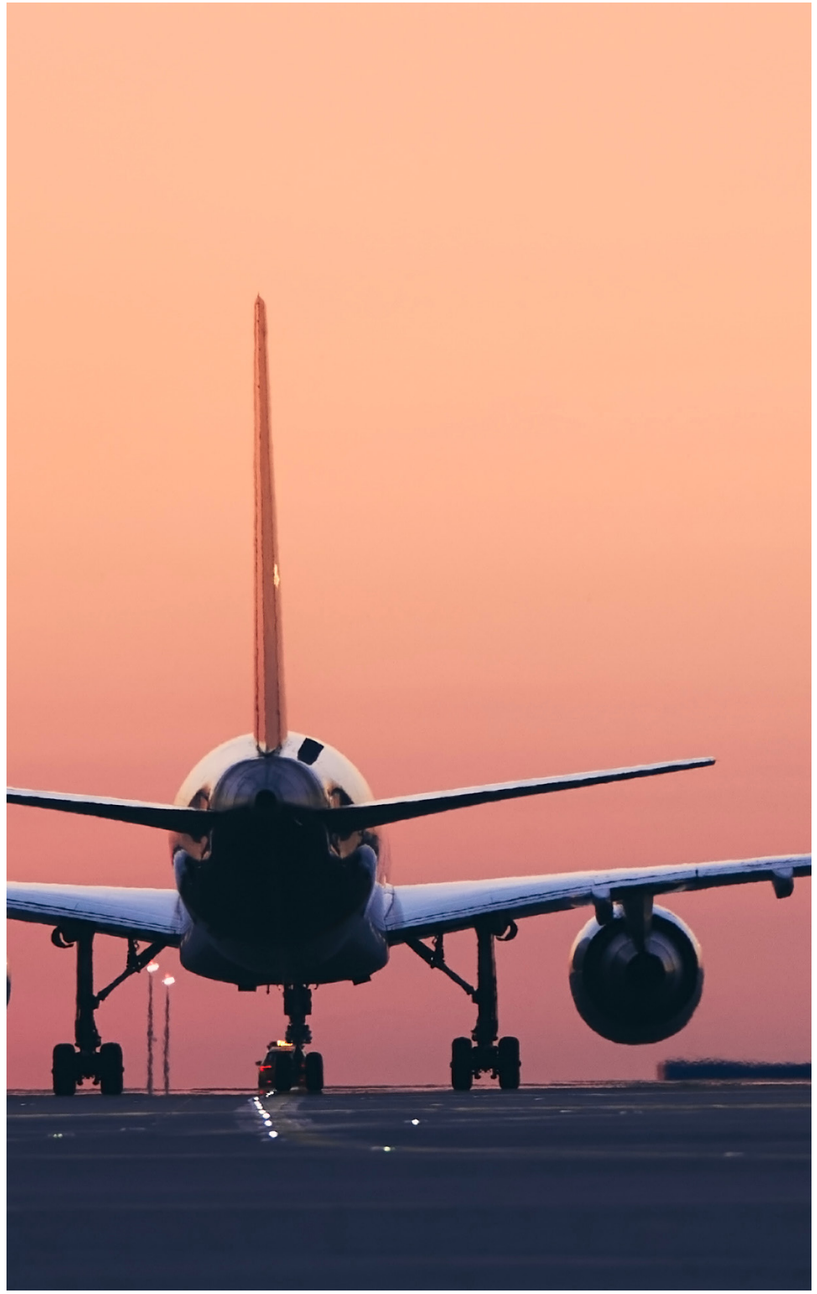
When capital plans are connected to execution data, leaders gain real-time visibility into portfolio performance. That insight matters when conditions change due to economic shifts, regulatory changes or unexpected disruptions. A living capital plan grounded in actual project data allows agencies to adapt quickly and redirect investment with confidence.

Example on the move:

A program management and project controls consultancy partnered with a regional transportation planning agency to develop the agency's first-ever 10-year capital plan using Octave Sequence Enterprise (formerly EcoSys), a leading EPP solution.

The platform enabled the team to build a capital plan with a level of rigor the agency had not previously achieved—including detailed modeling of funding sources, risk exposure and contingency scenarios. Because the plan was grounded in defensible data and clearly aligned to execution realities, it became the foundation for two successful bond issuances totaling more than $200 million, with justification for nearly $800 million in planned investment.

Just as importantly, the depth and transparency of the capital plan helped the agency secure AAA and AA+ bond ratings—higher than what had historically been considered achievable for projects of this type. Those improved ratings translated directly into millions of dollars in financing cost savings, freeing up capital for future transportation investments.



02. Fund management without guesswork

Transportation funding is anything but simple.

Federal programs, state initiatives, local taxes, grants, tolls, fees—each comes with unique rules, timing constraints and eligibility requirements. Tracking allocations, commitments and compliance across hundreds of funding sources manually isn't just inefficient—it's risky.

EPP software models funding rules directly into the system. It prevents misallocation, alerts teams before funding windows close and ensures projects maintain appropriate cash flow. Leaders can instantly see balances, commitments and future availability by fund, project or portfolio.

Zooming out, that same visibility extends beyond funding to resources overall (financial, labor and equipment) allowing agencies to identify shortages or overcommitments early and adjust before delays occur.

Example on the move:

A county transportation authority managing more than 200 funding sources replaced spreadsheets with an EPP platform. The change eliminated fear of compliance violations, reduced manual effort and simplified reporting to independent oversight committees.

Peace of mind replaced guesswork and governance improved without adding burden.



03. Single source of truth

Transportation programs don’t fail for lack of data. They struggle because the data is fragmented.

Many agencies oversee diverse project types, including highways, ports, airports and transit, spread across multiple business units, each supported by its own legacy project systems, financial tools and ERPs. Yet performance still needs to roll into a single, agency-wide view that leadership can trust.

Manually assembling that picture is slow, error-prone and unsustainable at scale. By the time data is reconciled, aligned and reported, insights arrive late, limiting opportunities to correct course or respond to emerging risks.

Too often, even multi-billion-dollar transportation programs rely on spreadsheets to stitch together actuals, commitments, schedules, timesheets and engineering data. The result isn’t just inefficiency—it’s uncertainty.

EPP solutions, like Sequence Enterprise, change the equation. Through purpose-built integrations across financial, scheduling, document and field systems, Sequence Enterprise establishes a single, authoritative source of truth. Manual handoffs disappear. Code structures stay aligned. Reports generate automatically and consistently.

The payoff is earlier insight, greater confidence and more time spent improving outcomes, not reconciling numbers.

Example on the move:

A local transportation agency was preparing to bring its EPP system online. Configuration was complete. Integrations were validated. Automated reports began to flow.

And the numbers didn’t match.

A detailed audit followed. What the team discovered wasn’t a system failure—it was a revelation. The newly generated reports were accurate. The legacy spreadsheets the agency had relied on for years contained formula errors and incorrect totals that had quietly propagated across its multi-billion-dollar capital program.

The lesson was clear: when decisions depend on flawed data, performance suffers. Establishing a single source of truth didn’t just improve reporting—it restored confidence in every number used to govern the program.



04. Digital progress

Before programs can improve performance, they must answer a deceptively simple question: **Where are we today?**

Accurate project progress measurement is the foundation for productivity, forecasting and predictability. Yet progress is often reported subjectively, based on perception rather than evidence.

Sequence Enterprise replaces guesswork with structure. Progress is measured using objective, predefined rules: milestone completion, weighted activities, rules of credit or installed quantities. Each task within a work breakdown structure is measured consistently, then rolled up into a defensible view of project and program progress.

Why it matters: progress feeds productivity metrics. Productivity drives forecasts. Better inputs deliver better outcomes.

With EPP, digital progress goes further by integrating with the systems that generate project-related data in real time. Field teams submit updates via mobile devices. Procurement systems confirm material delivery. Engineering systems validate design milestones. Emerging technologies, from sensors to scanning, contribute installation data.

Sequence Enterprise serves as the integration hub, consolidating progress from across the project portfolio ecosystem and translating it into timely, actionable insight for leaders.



05. Predictability

Predictability isn't about perfection. It's about knowing early.

The earlier teams understand where a project is headed, on cost, schedule or risk, the more options they have to respond. Early visibility maximizes the ability to course correct. Late discovery limits choices and magnifies impact.

Yet even with strong processes and technology in place, predictability often breaks down for human reasons. Decisions are delayed. Risks go unspoken. Forecasts lean optimistic. Incentives reward appearing "on track" rather than being transparent. Over time, these behaviors erode confidence and compromise outcomes.

Improving predictability requires more than better plans – it requires a system that supports better behavior.

Sequence Enterprise provides that foundation by grounding decisions in objective data, consistent forecasting and shared visibility from an enterprise-wide platform. When teams see the same information, follow standardized processes, use the same metrics and update forecasts continuously, transparency becomes the norm—not the exception.

Early insight becomes actionable intelligence. Strong predictability stands out. And transportation programs gain the confidence to manage risk proactively rather than reactively.



“Early knowledge of when a project is going off the rails maximizes the ability to course correct.”

Construction Industry Institute



All aboard … the road ahead

Transportation agencies face growing expectations, with limited tolerance for overruns, delays or uncertainty.

Across project planning, funding, execution and forecasting, software investments deliver outsized returns when they reduce complexity rather than add to it. EPP platforms improve efficiency, strengthen governance and increase confidence across the program lifecycle.

Sequence Enterprise is built for transportation programs operating at scale. It helps agencies turn data into decisions, align teams around a single source of truth and deliver outcomes that withstand public scrutiny.

Serious programs deserve serious software.

Let's talk about how to scale performance – without scaling complexity.

Learn more

Contact us



About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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