

Infrastructure investment surges, but inefficiencies squelch ROI

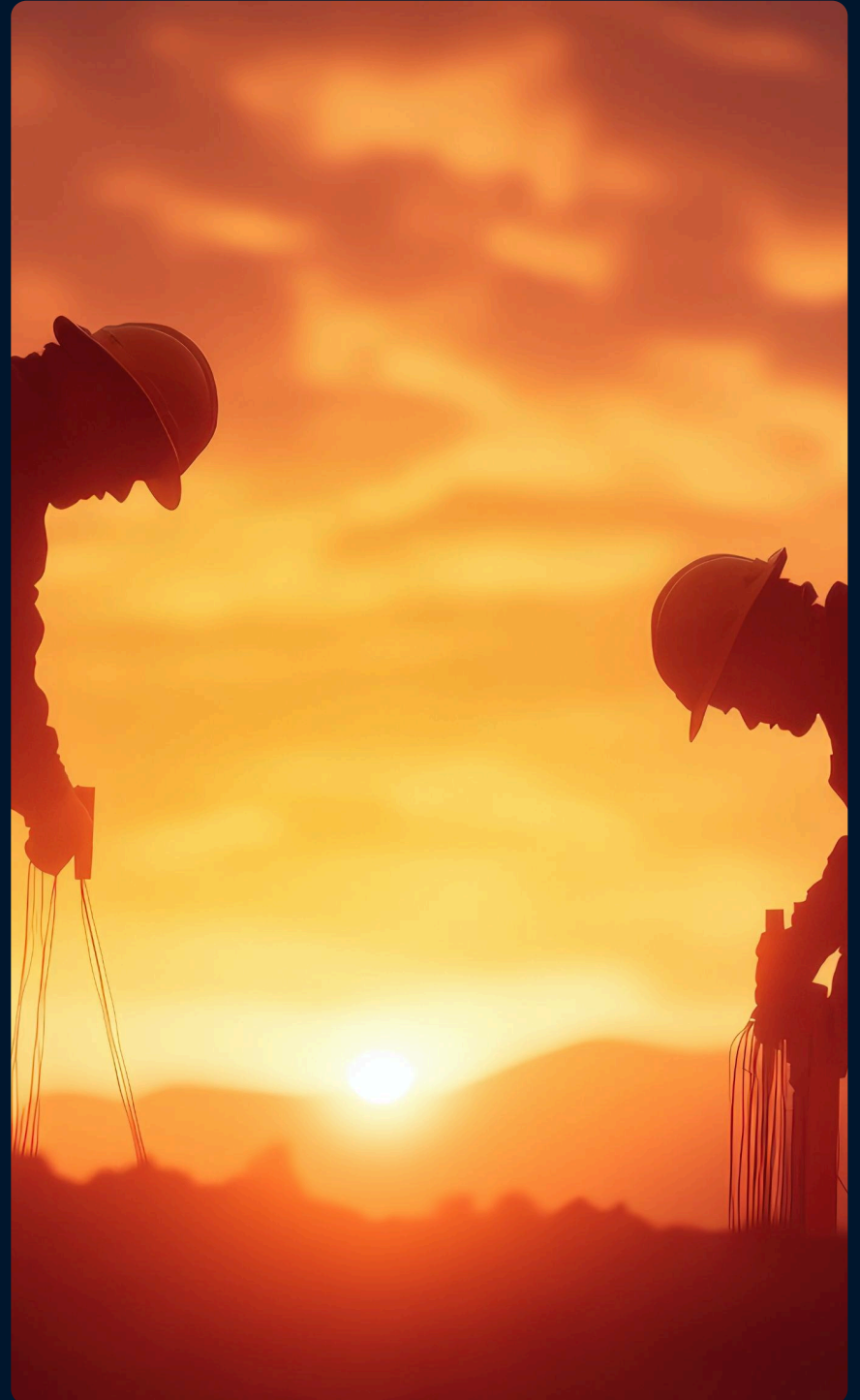
The industry's biggest challenge is no longer securing capital. It's converting that capital into predictable revenue.

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Infrastructure isn't constrained by capital. It's constrained by execution.

A consistent and verifiable record of work performed in the field is imperative to align capital concerns with execution.

Trillions of dollars are pouring into global infrastructure, but the industry's biggest constraint is no longer access to capital—it's the ability to convert that capital into predictable financial outcomes in an increasingly interdependent system.

In its recent shareholder letter, JPMorgan Chase & Co. describes a market defined by persistent inflation, higher-for-longer interest rates, geopolitical uncertainty and increasing competition for capital driven by AI and energy demand. Capital remains available, but expectations for discipline, timing and returns are rising.

That shift is being reinforced by the scale and nature of new demand. AI infrastructure is expanding rapidly with hyperscaler capital investment projected to rise significantly in the coming years. At the same time, the physical systems required to support that growth are under strain.

Data centers already consume an estimated 2-3% of U.S. electricity, with projections suggesting that figure could approach 9% by 2030. Utilities built for relatively stable load growth were not designed for this level of demand, and grid capacity is emerging as a constraint on future expansion.

A gap is emerging between how much capital is being deployed and how efficiently it is being used. As infrastructure becomes more interdependent and capital more constrained, that gap is becoming more visible, more material and more consequential to financial outcomes.



**Data centers
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Capital isn't scarce but patience is

Infrastructure is entering a new phase where capital is still flowing but is being deployed under more disciplined conditions. Interest rates remain elevated, and investors are placing greater emphasis on return, timing and risk. Demand continues to accelerate across broadband, energy and digital infrastructure, placing additional strain on systems that were not designed for this level of growth.

These conditions are changing how infrastructure programs are financed and evaluated. Capital is increasingly deployed with greater scrutiny on timing, risk and return, particularly in large-scale programs that depend on sustained funding over multiple years.

As more projects rely on debt financing in a higher-rate environment, the cost of delay becomes more visible. Slower execution affects not only project timelines, but also cash flow, financing costs and overall return profiles.

Speed to revenue is no longer a competitive advantage. It is increasingly a requirement for capital to be deployed and sustained at scale.

- **Capital is more selective**
Projects face greater scrutiny on timing, risk, and return
- **Delay has a measurable cost**
Slower execution increases financing costs, disrupts cash flow and compresses returns
- **Debt costs are rising**
In a higher-rate environment, every month of delay impacts project economics
- **Speed to revenue is the new differentiator**
It's not longer a competitive advantage but a requirement for capital at scale



Infrastructure failures are not isolated

Infrastructure is often managed as a sequence of phases, with planning, construction and operations treated as distinct steps. In practice, it behaves as an interdependent system where each stage influences the next.

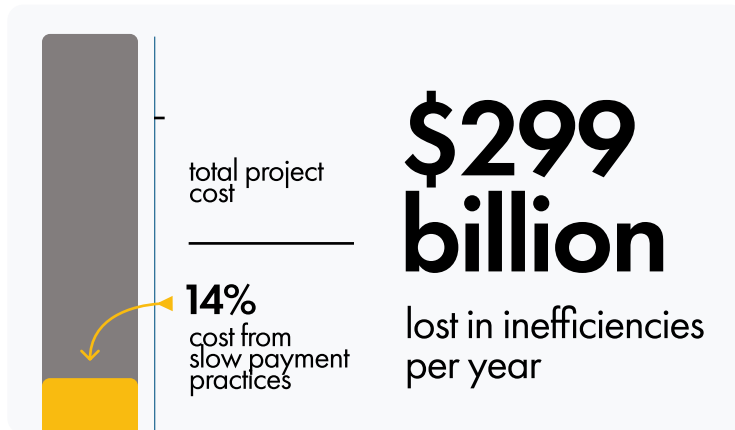
Field execution affects billing, which influences cash flow and financing. Financing then impacts future project costs and the ability to scale. As these relationships compound, the effects of delay or inconsistency extend beyond a single phase.

At the same time, infrastructure categories that were once considered separate are now closely connected. Data centers depend on fiber and power, while the power grid continues to evolve to support increasing digital demand. Constraints in one system can quickly affect performance in another, increasing the importance of coordinated and consistent execution.

TYPICAL INFRASTRUCTURE MANAGEMENT



REALITY OF INFRASTRUCTURE MANAGEMENT



A meaningful portion of infrastructure investment does not translate into productive work. Instead, it is absorbed through a series of inefficiencies that accumulate over the lifecycle of a project.

Research from Rabbet's 2025 Construction Payments Report found that contractors attribute an average of 14% of total project cost to slow payment practices. Across the U.S. construction market, this equates to an estimated \$299 billion in lost efficiency each year. On a \$100 million project, that represents approximately \$14 million in cost that does not contribute to actual construction output.

These losses do not stem from a single issue, but are embedded throughout processes, including the development of bids, invoicing, time tracking, payroll inaccuracies and misalignment between field records and billing data.

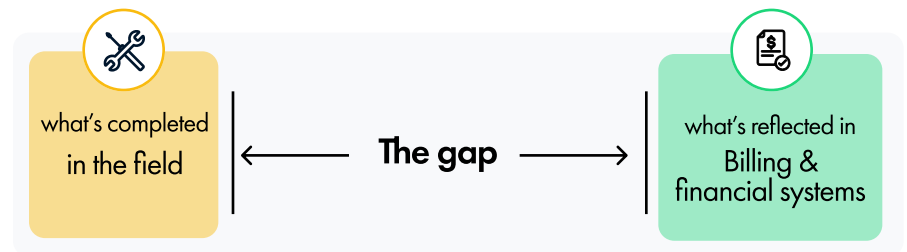
The root cause: Inconsistent and non-auditable data

Across these areas, a consistent pattern emerges. Infrastructure execution is rarely supported by a single, verifiable record of work.

Field data is often captured manually, reconstructed after the fact and stored across multiple systems that are not aligned in real time. This creates gaps between what is completed in the field and what is reflected in billing and financial systems.

As those gaps widen, organizations rely on additional oversight, manual validation and reconciliation to bridge the difference. Over time, this

introduces delays, increases the likelihood of disputes, and adds layers of cost that are not always visible in financial reporting but are felt across the lifecycle of a project.



Why the gap is increasing

Several forces are making this issue more pronounced. As infrastructure investment grows, the absolute value of inefficiency increases alongside it. Regulatory requirements are becoming more stringent, particularly in programs that require detailed documentation and audit readiness.

Capital providers are placing greater emphasis on financial discipline, with a focus on cash flow timing, capital efficiency and risk management. At the same time, the increasing interdependence of infrastructure systems means that delays and inconsistencies can have broader operational and financial implications.

Together, these dynamics raise the cost of inconsistency and increase the importance of reliable execution data.



Alignment between operators and capital providers

As expectations rise, there is growing alignment between those delivering infrastructure and those funding it. Operators are focused on accurate billing, completion documentation, compliance and minimizing disputes. Capital providers are evaluating cash flow timing, capital efficiency, scalability and risk exposure.

Both perspectives depend on the same underlying foundation, which is a consistent and verifiable record of execution. As that foundation strengthens, the ability to meet both operational and financial expectations improves.

Where to start

Improving capital efficiency begins with how execution is captured, validated and translated into financial outcomes.

The first question is whether there is a consistent and verifiable record of work performed in the field. From there, the focus shifts to alignment. How closely does billing reflect actual execution, and how much effort is required to reconcile differences across systems?

Delays and disputes are rarely isolated events. They are often symptoms of gaps between what is completed, what is recorded and what is financially recognized. Identifying where those gaps occur provides a clear view of where capital efficiency is being lost.

Organizations that address these disconnects do more than improve operations. They strengthen the link between execution and financial performance.

Three questions to ask yourself...

- ☐ **01** Is there a consistent and verifiable record of the field work?
- ☐ **02** How closely does billing reflect actual execution?
- ☐ **03** What's the lift to reconcile differences across the systems?



Conclusion

Infrastructure investment continues to expand, and expectations for performance are rising alongside it. As systems become more interdependent and capital more constrained, inefficiencies that were once absorbed across projects are becoming more visible and more material. They are no longer confined to operational variance. They are showing up in cash flow, financing costs and returns.

The defining factor is no longer how much capital is deployed. It is how effectively that capital is converted into financial outcomes. Organizations that operate with a consistent and verifiable record of execution will be better positioned to deliver predictable results, reduce risk, and sustain investment at scale. In this environment, execution is not a downstream activity. It is the foundation of infrastructure performance.

