Financial Losses in Public Infrastructure Procurement: Key Issues and Cases

Public infrastructure projects often suffer financial losses due to inefficiencies, fraud, and poor practices in procurement. Below, we outline major problem areas and cite authoritative sources (government audits, official reports, academic studies, industry research, and legal cases) that quantify these losses and provide real-world examples.

Inefficient Procurement Processes

Inefficient or antiquated procurement processes can waste substantial public funds. GAO defines "waste" as **unnecessary costs incurred due to inefficient or ineffective practices, systems, or controls**, which can lead to **substantial losses**

csa.virginia.gov
. In infrastructure projects, fragmented or outdated procurement systems and manual workflows drive up costs:

- **High Costs of Outdated Systems:** A U.S. House oversight hearing noted a legacy federal procurement system that "**wastes hundreds of millions of dollars annually due to inefficiency**"
  oversight.house.gov
  . Similarly, the IMF estimates that about **one-third of infrastructure spending is wasted due to inefficiencies** on average
  blogs.worldbank.org
  . These losses represent money that could otherwise fund additional projects or maintenance.
- **State Audit Findings:** Oregon's Secretary of State audit found that reliance on **inconsistent, paper-based purchasing processes** was "time consuming, error prone, difficult to track," and lacking in spend transparency
  govtech.com
  . The audit concluded that if a modern e-procurement system had been in place, the state **could have saved over $1 billion in the past two years**
  govtech.com
  . This projected biennial savings (estimated range $400 million to $1.6 billion) equals roughly 5–10% of Oregon's $8 billion biennial procurement spend
  govtech.com

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  , highlighting how much manual inefficiencies were costing taxpayers.

- **Automating to Reduce Waste:** Oklahoma implemented an AI tool to monitor procurement and discovered significant irregularities. It flagged **$190 million** in purchase-card transactions across agencies and identified **$5.6 million** in improper purchases that could be corrected with better controls. By catching errors and enforcing rules faster, such oversight tools help recover funds and prevent ongoing waste in the procurement cycle.

Bid Manipulation and Bid Rigging

Bid rigging – collusion among contractors to manipulate bidding outcomes – inflates project costs and defrauds the public. OECD analyses show bid-rigging cartels typically drive up prices by **20% or more**

slideserve.com
, meaning taxpayers get charged a hefty premium over fair market value. Numerous cases illustrate the financial damage:

- **Highway and Infrastructure Contracts:** A Michigan highway contractor was caught in a long-running scheme to rig asphalt paving bids and was fined **$6.5 million**. In another DOJ case, a North Carolina engineering firm (Contech) engaged in a **decade-long bid-rigging conspiracy** to win NCDOT infrastructure contracts. When prosecuted, the firm paid **$7 million in criminal fines** and **$1.5 million in restitution** to the state for the losses caused
  justice.gov
  . Prosecutors emphasized that such collusion cheats taxpayers and undermines open competition
  justice.gov
  .
- **Documented Schemes:** A federal indictment in Missouri detailed how two contractors conspired on a **$7.1 million state highway project**, pre-arranging a winner and a sham higher bid from the loser. In return, the winning firm subcontracted work back to the accomplice. This bid-rigging scheme not only subverted competition but also led to potential Sherman Act penalties of up to **$10 million in fines** for the company. When such conspiracies proliferate, the cumulative cost to state programs can reach into the tens of millions (for example, a school milk bid-rigging scandal across 16 states was said to have cost taxpayers “millions of dollars”
  deseret.com
).
- **Enforcement and Deterrence:** The U.S. DOJ’s Procurement Collusion Strike Force has ramped up efforts to detect and prosecute bid manipulation. Officials note that **“all taxpayers lose”** when companies rig bids, and strong enforcement (including prison terms and heavy fines) is aimed at deterring schemes that **drain public budgets and inflate infrastructure costs by double-digit percentages**
  justice.gov

slideserve.com
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Change Order Abuse

Frequent or manipulative **change orders** – contract modifications often due to scope changes or design errors – are a major driver of cost overruns in public works. A recent study found procurement officials cite **"change of project scope" as the *most common* cause of cost overruns**

brookings.edu
. While some change orders are unavoidable, abuse of this process (or failure to manage it properly) can cost agencies millions:

- **Overruns from Design Errors:** The New York City Comptroller audited three agencies and found they **failed to recoup over $13 million** in change-order costs that arose from design consultants' errors and omissions. City rules require billing the responsible designers for extra costs above $3,000, but lax enforcement meant taxpayers bore the expense. The report urged tighter oversight so that design mistakes don't translate into unrecovered public costs.
- **Excessive Change Order Costs:** An Allegheny County (Pennsylvania) audit revealed that **12 public works projects ran up over $6 million in combined cost overruns** due to change orders and scope additions
  alleghenycontroller.com
  . These overrun costs averaged almost **20%** per project – roughly double the industry-standard 10% contingency for changes. The County Controller warned that routinely relying on change orders (instead of accurate initial bids) **"opens the door to unscrupulous practices such as bid rigging, which drive costs up even further"**
  alleghenycontroller.com
  . In other words, contractors might intentionally underbid and then milk projects via change orders. The audit recommended stricter limits on post-award changes and more thorough up-front design reviews to curb avoidable extras.
- **Major Project Overruns:** Large infrastructure projects have famously suffered from change order abuse. Boston's *"Big Dig"* highway tunnel project, for example, underwent massive scope changes and fixes – it was supposed to finish in 1998 for $2.8 billion but dragged on until 2007 at a cost of **over $24 billion**
  blogs.worldbank.org
  . Investigations found poor planning and design flaws led to constant changes, and even fraud (e.g. contractors using flawed materials) contributed to ballooning costs. This case underscores how unchecked changes can multiply a project budget many times over.

Subpar Material Selections Leading to Cost Overruns

Choosing low-quality or inappropriate materials to cut upfront costs often backfires through higher maintenance, failures, or re-construction – ultimately **raising the total cost** far beyond the savings. Cases of substandard materials in public projects show severe financial (and safety) consequences:

- **Boston's Big Dig – A Cautionary Tale:** The Big Dig's governance failings included contractors **using substandard construction materials**, which caused defects (like tunnel leaks and a fatal ceiling collapse) and necessitated expensive repairs blogs.worldbank.org . Multiple contractors and officials were criminally charged for fraud related to these material issues. The overall project ended up **over $21 billion (approximately 8× over budget)** blogs.worldbank.org . While not all of that overrun is attributable to material problems, the use of inferior materials clearly led to rework and delays that contributed millions to the cost.
- **Increased Maintenance and Repair Costs:** Engineering studies confirm that using cheaper, lower-grade materials can **drive up life-cycle costs**. One study noted **high maintenance expenditures due to poor workmanship and **"increased repair costs due to inferior materials"**** mdpi.com . For example, if a contractor paves a road with sub-grade asphalt or concrete that fails prematurely, the road may need repaving years ahead of schedule, effectively making the agency **pay twice** for the same mile of pavement. In practice, any initial savings from subpar materials are dwarfed by the cost of early deterioration, emergency fixes, and shortened asset lifespan. Quality shortfalls in infrastructure (like substandard steel in bridges or deficient water pipes) thus translate to significant financial waste for governments, in addition to safety risks.

Bias in Vendor Selection Affecting Contract Awards

Favoritism, fraud, or bias in awarding contracts – for instance, steering deals to less qualified or more expensive vendors due to political connections or false credentials – can cause agencies to overpay and miss out on better bidders. Several high-profile fraud cases highlight the **huge sums siphoned off** when contract awards are manipulated:

- **DBE Fraud Schemes:** Federal disadvantaged business programs (intended to favor minority or veteran-owned firms) have been exploited by front companies, leading to large losses. In one case, prosecutors found that **Zieson Construction Co. fraudulently obtained $335 million in government contracts** by falsely claiming to be a minority or disabled-veteran-owned firm enr.com . For about a decade, the company won numerous municipal and federal construction projects it wasn't truly eligible for, depriving legitimate firms and likely resulting in inflated costs or subpar work. Similarly, a Texas contractor was convicted in a **$240 million DBE**

fraud scheme (1998–2018) for posing as a qualified disadvantaged business enr.com . These schemes show how biasing the vendor pool through fraud can divert hundreds of millions in contracts.

- **Kickbacks and Preferential Awards:** Bias in vendor selection can also occur through bribery or kickbacks, where officials award contracts in exchange for personal gain. For example, an Illinois highway commissioner and a contractor's employee ran a kickback scheme on local road contracts, inflating prices and defrauding the public of funds (one such scheme in Illinois involved about $280,000 in extra costs before they were caught) enr.com . At larger scales, the U.S. DOJ has prosecuted city procurement officials for rigging bids in exchange for bribes, emphasizing that **corrupt favoritism in contracting directly translates to financial losses for taxpayers** theregister.com

  theregister.com . When a contract is awarded based on anything other than merit and price, the likely outcome is overpayment or lower quality – effectively a form of "tax" on the public infrastructure budget.

Paper-Based or Flawed E-Bidding Inefficiencies

The use of **outdated, paper-based bidding and procurement systems** can create bottlenecks, higher administrative costs, and less competitive outcomes. Conversely, adopting modern e-procurement has been shown to save money by streamlining processes and expanding competition:

- **Audit-Estimated Savings:** The Oregon state audit cited earlier found that replacing siloed manual processes with a unified e-procurement system would yield enormous savings – on the order of **$1 billion per biennium** (10% of spend) – by eliminating redundant paperwork, errors, and lack of coordination govtech.com

  govtech.com . The audit team noted that under the current paper-driven system, only 12.5% of purchases could even be analyzed; the opacity was hiding countless inefficiencies govtech.com . This implies that simply modernizing procurement tech can uncover better pricing and avoid waste on a very large scale.
- **Real-World Results – Virginia's eVA:** Virginia's statewide e-procurement platform (eVA) demonstrates concrete benefits of digitization. The system serves as a one-stop portal for all agencies and vendors to handle bids and orders electronically. By **automating bid solicitations and allowing vendors to respond online**, eVA dramatically increased vendor participation in bidding. In its first few years, **the state**

saved an estimated $114 million (2001–2004) through lower prices on goods and services, thanks to the improved competition and data-driven contracting that eVA enabled
pewtrusts.org
. More bids per contract and better spend analysis meant agencies could negotiate better deals and aggregate demand for volume discounts.

- **Reducing Processing Costs and Errors:** E-procurement also cuts the administrative overhead of paper handling. One industry analysis finds automating procurement can reduce transaction costs by **5–20% overall**. An example at the municipal level: Honolulu's transit authority reported saving ~$5 million by switching to electronic bidding, due to reduced processing time and fewer bid protests (as the e-bidding system caught errors that might have led to disputes)
manutan.com

govtech.com
. Flawed or partial implementations of e-bidding, on the other hand, can limit these gains. Several states have learned that simply digitizing forms without integrating systems yields only modest improvements. The biggest savings come when systems are truly unified, user-friendly, and mandated for use by all agencies – ensuring transparency and the ability to leverage statewide purchasing power
govtech.com

govtech.com
. In short, modernizing procurement technology is a proven investment that can save **tens or even hundreds of millions of dollars** by making public contracting more efficient and competitive.

Sources

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  ; Pew Trusts report on state e-procurement savings (VA, MN)
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- Engineering News-Record (ENR) coverage of contracting fraud (DBE schemes, kickbacks)
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  ; Government Technology report on Oregon audit
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  . Each of these sources documents tangible financial impacts – from **millions in wasted funds on individual projects to billions in systemic losses** – underscoring the importance of tackling procurement inefficiencies and corruption in public infrastructure.