



2025 Preconstruction Cost Trends and Risk Factors

Leveraging AI and Strategic Planning to Navigate Industry Challenges

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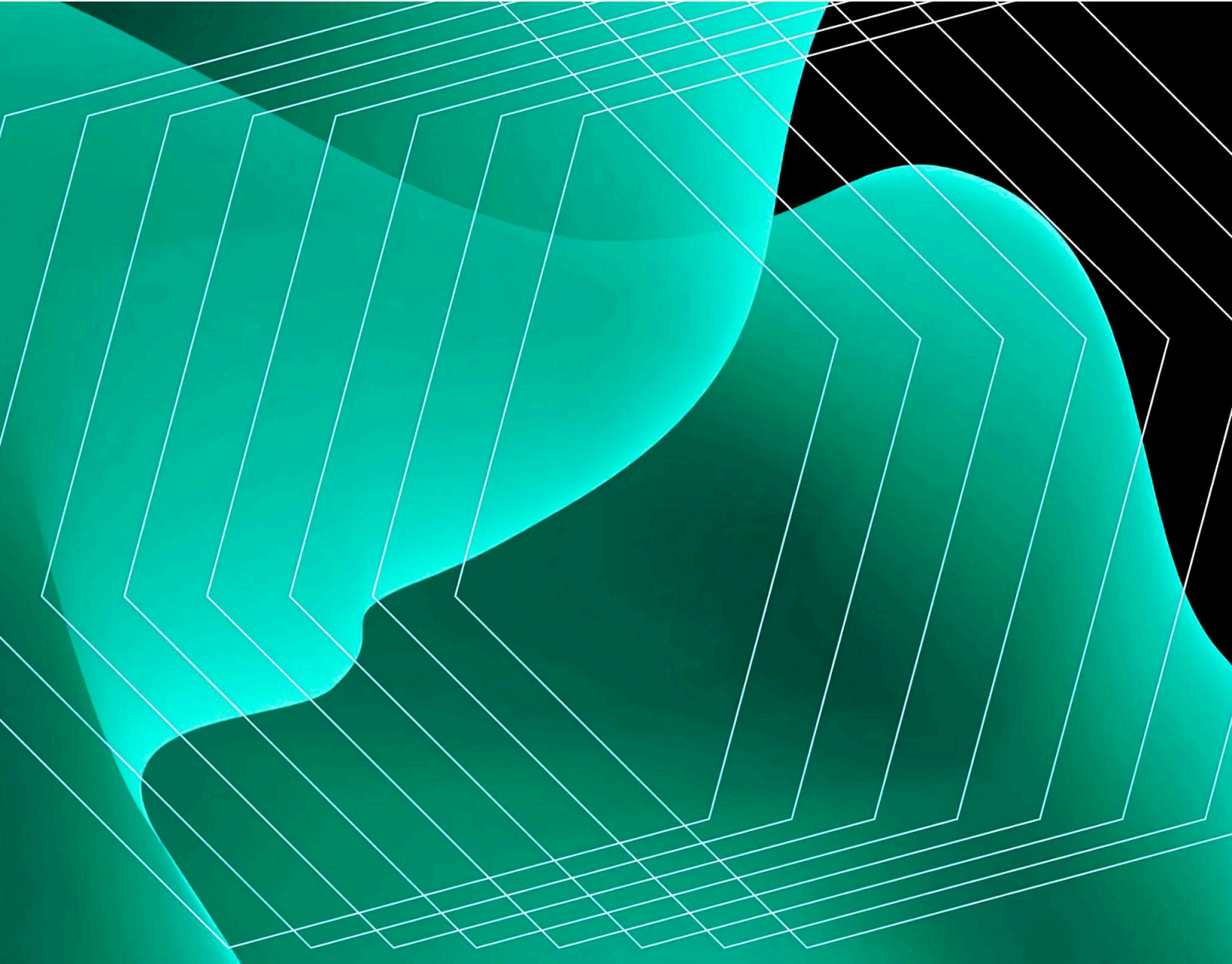


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Slate.ai empowers top construction innovators to turn their data into intelligence that drives optimal decisions and outcomes. Slate offers a suite of AI-enabled solutions—spanning generative design, progress tracking, lessons learned, and more—that harness and harmonize data from disparate sources to deliver proactive insights and recommendations. By embracing human expertise alongside machine learning, Slate uncovers patterns and mitigates risks long before they become project-threatening problems. Learn more at www.slate.ai

2025 Preconstruction Cost Trends and Risk Factors in North America

Introduction: Preconstruction planning in 2025 faces a complex landscape of rising costs and evolving risks. North American contractors and developers are entering the year with cautious optimism, but also wariness about economic and geopolitical shifts¹. Inflation may be cooling and interest rates potentially easing, yet materials and labor expenses remain high. Meanwhile, new technologies – from AI-driven estimating platforms like Slate Generate to automation – are reshaping how teams manage cost and risk before breaking ground. This report examines key cost trends and risk factors expected to impact preconstruction in 2025, along with the influence of emerging tech and expert predictions. Actionable strategies are provided to help stakeholders mitigate risks and optimize costs in the year ahead.

Construction crews in North America are dealing with rising material costs, labor shortages, and other challenges as they plan projects for 2025^{2,3}.

Cost Trends in 2025 Preconstruction

Preconstruction teams must navigate a range of cost drivers in 2025, many of which continue trends from recent years. Key cost components and their forecasted trends include:

- **Materials and Commodities:** After the extreme price swings of 2021–2022, many construction material costs have stabilized, but they remain elevated and volatile⁴. In Q4 2024, overall construction costs in North America were about 4.7% higher year-over-year². Lumber, steel, cement, and other inputs face lingering supply constraints, and **any new tariffs or trade disruptions could drive prices sharply upward**. Analysts warn that a 20–30% average tariff on imported materials could raise direct project costs by 5–10%⁴. Developers are concerned that tariffs on Chinese imports or other geopolitical shocks will disrupt supply chains and spike prices in 2025². On the positive side, domestic production capacity has expanded for some materials, helping meet ~75% of demand internally⁴. Nonetheless, **fluctuating material prices** will continue to pose budgeting challenges⁵, and preconstruction estimates should include contingencies for potential spikes.

- **Labor Costs and Shortages:** The construction labor market in North America remains very tight going into 2025. Unemployment in construction hovers around ~4% (essentially *full employment*), meaning contractors must compete and pay more to attract workers⁴. Wage levels are expected to **grow faster than normal** – many union craft labor agreements up for renewal could see above-average raises⁴. In 2024, industry wages already rose ~4.3%³. Furthermore, the workforce is aging (one in five workers is over 55) and younger generations aren't entering fast enough, exacerbating the skill gap⁶. The National Association of Home Builders estimates **720,000 additional construction workers will be needed** in 2025 to meet demand³. This labor scarcity drives up payroll costs and can slow project timelines. Preconstruction plans must account for higher bids from subcontractors and possibly schedule impacts due to limited staffing. Contractors are expanding training and apprenticeship programs and boosting benefits to recruit talent, but the labor shortfall remains a significant cost driver³⁶. Insurance and regulatory expenses tied to labor (e.g. higher workers' comp premiums, new safety training requirements) also add to costs as firms strive to improve jobsite conditions amid the workforce crunch.
- **Supply Chain & Logistics:** Supply chain reliability has improved since the peak disruptions of the pandemic, but *lead times* for certain products are still a concern in 2025. Critical equipment (like electrical components or HVAC units) can face long procurement lead times, and any logistic bottlenecks (port strikes, freight capacity issues) could cause delays. Industry experts are closely watching events like port labor negotiations (e.g. ILA contract deadlines) to avert major disruptions⁴. With global trade conditions uncertain, **developers have become more cautious about material sourcing** – many are diversifying suppliers and even stockpiling some critical materials to buffer against shortages³. Shipping costs and fuel prices (influenced by global oil markets) remain a variable factor; a surge in energy costs or new geopolitical conflict could raise transport/logistics expenses unexpectedly. Overall, supply chain issues are less severe than in 2021, but **preconstruction schedules in 2025 should still build in flexibility** for potential procurement delays on specialized items. Early procurement of long-lead components and using local or alternative products (where possible) are common strategies to control this risk.
- **Technology Integration Costs:** The push to adopt advanced technology in construction brings its own cost considerations. Many firms are investing in Building Information Modeling (BIM), digital twins, and cloud collaboration platforms like Slate Generate during preconstruction, which incur upfront expenses in software, training, and process changes. However, these tools are largely seen as *cost-saving* measures over a project's life – by improving design coordination and detecting issues early, they reduce costly rework and delays. In 2025, tech integration is accelerating: **companies are more readily implementing BIM, digital**

twins, robotics, and automation, which streamline project planning and cut waste⁶. For example, model-based coordination can catch clashes and optimize material usage, keeping projects on budget⁶. Solutions like Slate Generate create a single source of truth for project data, with some clients reporting 90% time savings from takeoff to estimating. The cost of technology is coming down as solutions mature, and not adopting them may carry an opportunity cost. Still, **firms must budget for IT investments and training** in the preconstruction phase. Those who leverage tech effectively can often offset these costs via greater efficiency and accuracy in estimates and schedules.

- **Inflation and Finance:** General economic inflation in North America has moderated from the highs of 2022. Construction cost inflation cooled to the mid-single digits in 2024². Going into 2025, **cooling inflation and the prospect of declining interest rates** offer some relief: lower financing costs could stimulate more projects⁵⁶. Indeed, economists forecast interest rate cuts in 2024–25 that may boost construction starts ~8–9% next year⁷. However, certain categories – especially project financing and insurance – remain expensive. High interest rates in 2023 raised the cost of carrying land and funding development; even if rates ease in 2025, many projects will still reflect the higher financing costs locked in previously. Additionally, lenders have become stricter due to economic uncertainty and **commercial real estate debt concerns**. Over \$2 trillion in U.S. commercial real estate debt is maturing in 2024–2025, with high office vacancy rates threatening defaults⁵. If defaults spike and lenders pull back, developers may find it harder or costlier to get financing, which *indirectly* increases preconstruction risk (projects may be delayed or value-engineered to secure funding). **Regulatory fees** – permits, impact fees, and code compliance costs – also keep rising, adding tens of thousands of dollars to project costs. In fact, roughly **\$94,000 of the cost of a new home in the U.S. is due to regulatory requirements** (building codes, land use rules, etc.) on average⁸. Any new 2025 code updates (for energy efficiency, safety, etc.) could further add to upfront costs. Preconstruction budgets should carefully account for permit fees and compliance measures to avoid surprises.
- **Regulatory and Compliance Expenses:** Governments at all levels are introducing stricter standards that affect building design and preconstruction requirements. **Environmental regulations** are a big driver – new rules pushing sustainability (energy codes, lower carbon materials, waste reduction) can raise design and material costs⁹. For instance, enhanced insulation or efficient HVAC mandated by updated energy codes may increase initial costs (though they save operating costs later). **Health and safety regulations** are also tightening: OSHA and other agencies have rolled out enhanced safety protocols, training mandates, and reporting requirements⁹. While these improve jobsite safety, they add compliance costs (training programs, safety equipment upgrades, administrative overhead). **Building**

codes continue to evolve with requirements for things like seismic resilience, hurricane-resistant design in coastal areas, fire sprinkler coverage, etc., all of which can require more expensive construction methods or materials⁹. In 2025, the regulatory trend is toward more rigorous standards – which, combined with permitting delays for reviews, can increase preconstruction expenditures. It's estimated that compliance and delays due to regulations add **thousands of dollars and several months** to many projects⁹. Construction firms will need to invest in understanding and planning for these changes (sometimes even hiring code consultants or expeditors). On the upside, some jurisdictions are looking to streamline approvals to spur construction (reducing "red tape"), but such policy shifts are uncertain and region-specific⁷. Overall, **regulatory compliance remains a significant cost center** in preconstruction that must be diligently managed.

Risk Factors Impacting Preconstruction

In addition to cost pressures, a number of risk factors could disrupt or derail projects in 2025. Preconstruction planners should keep a close eye on these potential challenges:

- **Economic Downturn or Market Slowdown:** The risk of an economic downturn looms in 2025. While baseline forecasts are optimistic (no recession expected and construction growth around 5–8%⁷), the situation is fragile. **If inflation resurges or interest rate cuts stall**, the economy could weaken, reducing demand for new projects. Likewise, a credit crunch stemming from financial market stress could curtail development. Preconstruction is particularly sensitive to confidence – developers may delay or cancel planned projects if they sense an upcoming recession. **Contractors are "juggling optimism and unease" entering 2025** given mixed economic signals¹. To manage this risk, teams might prepare alternate phasing or design options that can downgrade a project's scope if needed to maintain viability. Keeping an economic contingency in budgets (for example, higher financing costs or longer carrying time) is prudent. Essentially, **a sharp downturn remains a "what if" scenario** that could quickly flip the currently positive outlook, so scenario planning is warranted.
- **Geopolitical Uncertainties:** International events can have immediate impacts on construction costs and schedules. The ongoing war in Ukraine, for example, has influenced global energy and steel prices in recent years. Any escalation or new conflict could disrupt supply lines for critical materials (fuel, metals, etc.). **Trade relations are another wildcard** – U.S.-China tensions are high, and new trade barriers or sanctions could hit construction inputs. As noted earlier, proposed tariffs on metals like steel and aluminum pose an upside risk to costs⁶². Retaliatory tariffs from other countries could likewise constrain supply or raise prices.

Additionally, North American construction firms operating cross-border (U.S.-Canada or U.S.-Mexico) must consider currency fluctuations and trade policy changes under new administrations. Geopolitical risks are hard to predict but can cause price shocks or shortages with little warning. In preconstruction planning, it's wise to **identify critical materials with global supply exposure** and have contingency suppliers or price-escalation clauses as protection¹⁶.

- **Policy and Regulatory Changes:** With a new U.S. presidential administration in 2025, contractors anticipate shifts in federal policy¹. Potential tax cuts, infrastructure spending increases, or deregulation could stimulate construction – for example, an infrastructure bill could create more public projects, and *"reduction in red tape"* might speed up permitting⁷. On the other hand, policies such as stricter immigration enforcement or new tariffs could introduce major risks. **Labor supply is especially vulnerable to policy moves:** roughly one-third of the U.S. construction workforce is foreign-born, so aggressive deportation or visa restrictions could severely exacerbate workforce shortages⁷. In fact, industry economists warn that an immigration crackdown could cause *"meaningful delays in moving projects forward"* due to labor scarcity⁷. Contractors are also monitoring regulatory changes in areas like environmental rules (e.g. faster environmental reviews vs. new climate rules) and labor laws (changes to overtime rules, union regulations, etc.). **Extreme policy changes** can be disruptive, but most take time to implement – any major federal shifts in early 2025 would likely be felt in the latter half of the year⁷. Preconstruction teams should stay agile and informed, ready to adapt plans if, say, a tariff suddenly raises material quotes or new compliance requirements emerge mid-project.
- **Environmental and Climate Risks:** The growing frequency of extreme weather and climate-related events is a significant risk factor for construction. **Regions like California, Florida, and Texas are facing climate-related obstacles** (wildfires, hurricanes, floods) that can derail construction activity². A severe hurricane or wildfire season in 2025 could disrupt supply chains (e.g. timber supply or fuel logistics), damage project sites, or shift government spending priorities (toward disaster recovery vs. new development). Even outside of acute disasters, changing climate patterns introduce risks – heavy rainfall events can delay sitework, extreme heat can limit construction hours (impacting labor productivity), and permafrost thaw in northern regions affects foundation design, for instance. Environmental regulations as discussed also play in here: the need for resilient design (to withstand storms, sea-level rise, etc.) can add cost and complexity in preconstruction. Insurance for weather and climate risks has become more expensive and sometimes harder to obtain (especially in coastal or wildfire-prone areas), which is a risk for budgeting. In response, **builders are incorporating more robust risk mitigation for climate** – e.g. scheduling critical work outside of peak

storm season, choosing materials with better durability, and obtaining weather insurance coverage. Nonetheless, climate risk is a factor that every 2025 project must contend with, particularly as stakeholders (lenders, insurers, communities) demand climate resilience.

- **Workforce Shortages and Productivity Risks:** As noted in cost trends, the labor shortage is both a cost issue and a major risk factor. If contractors cannot staff a project adequately, schedules will slip and costs can balloon. **Many projects remain in extended planning phases as developers cautiously approach launches, partly due to labor capacity concerns⁴.** Specialized trades (electrical, plumbing, etc.) are in especially short supply in certain markets, meaning preconstruction plans might need to sequence work around limited crew availability. There's also a risk in workforce **experience gaps** – with many veteran workers retiring, less experienced staff may introduce higher error rates or safety incidents, which can lead to rework or delays. Another workforce-related risk is labor **unrest or union strikes:** with high demand, unions in some regions may push for strong wage increases, and failure to reach agreements could result in strikes that halt projects. Additionally, the mental health and safety of workers post-pandemic is a rising concern; high stress and injury rates could lead to higher turnover or even project shutdowns if not managed. In 2025, firms are actively addressing these risks by improving worker conditions and leveraging technology/automation to reduce reliance on manual labor. But until the talent gap is closed, **workforce issues will remain a top risk to project timelines and quality.**

Impact of Technology and AI on Cost & Risk Management

Emerging technologies – particularly artificial intelligence (AI), automation, and data analytics – are increasingly transforming preconstruction practices. In 2025, leveraging these tools is becoming essential for controlling costs and mitigating risks early in the project lifecycle:

- **AI-Driven Estimating and Bidding:** Artificial intelligence is revolutionizing how estimates are produced and refined. Modern preconstruction software like Slate Generate can use AI to analyze historical cost data, helping estimators generate **more accurate budgets and forecasts.** For example, AI algorithms can automatically perform material quantity takeoffs from digital plans, saving enormous time and reducing human error¹¹. They can also factor in project complexity, location, and crew experience to predict labor costs more realistically¹¹. Some contractors are using AI to optimize their bid strategies as well

– by mining past bid outcomes, an AI tool might suggest the ideal pricing that balances **winning the job versus profit margin**¹¹. This data-driven approach in preconstruction helps firms avoid underbidding (which can lead to losses) or overbidding (losing work). AI-powered platforms like Slate Generate can reduce the number of decisions by up to 80%, helping avoid costly mistakes while enabling real-time change management. When a client requests a change, AI models can instantaneously recalculate how that change ripples through the budget¹¹. Overall, AI-powered estimating tools are improving accuracy and confidence in preconstruction cost plans, which directly mitigates the risk of later overruns.

- **Predictive Analytics for Risk Management:** One of the most powerful impacts of AI is in **predicting and flagging risks before they materialize**. In 2025, construction teams are moving from reactive problem-solving to proactive risk management using AI insights¹². For instance, AI can analyze vast amounts of project data (schedules, RFI logs, subcontractor performance, weather forecasts, etc.) to identify patterns that precede cost overruns or delays¹². Tools like Autodesk's Construction IQ use AI to assess which pending tasks or subcontractors pose the highest risk on a project, enabling the team to focus attention there¹². By integrating all project information on a unified platform, **AI can "connect the dots" that humans might miss and alert managers to issues early**¹². As Oracle Construction notes, by analyzing historical data AI can predict potential equipment failures, safety incidents, or schedule slippages, allowing preventative action¹⁵. In preconstruction, this means AI can run scenario analyses – e.g. forecasting how likely a project is to finish late or which cost item has high variance – so planners can build robust mitigation plans from the start. Essentially, AI serves as an "early warning system," helping project teams allocate contingencies and oversight to the areas of highest risk. This greatly enhances risk management, shifting it to the preconstruction phase rather than firefighting during construction.
- **Automation and Modular Construction:** Automation technologies are addressing cost and schedule risks by improving productivity. **Prefabrication and modular construction**, in particular, are poised for broader adoption in 2025, enabled by digital design and robotic fabrication¹⁵. By moving portions of construction into a controlled factory setting, modular construction can significantly reduce on-site labor needs and compress schedules. It also curtails material waste, which lowers costs. Industry experts note that the drive for faster delivery and cost reduction is fueling the rise of modular building methods, often combined with automated processes and AI for precision¹⁵. For example, robotic systems can 3D-print or pre-assemble components (walls, MEP racks, etc.) which arrive to site ready to install, cutting down labor hours needed on site. Automation is also coming to the

jobsite itself: drones autonomously survey sites to gather data for earthwork planning, and robotic equipment can perform repetitive tasks like bricklaying or tying rebar. These innovations help tackle the labor shortage by **augmenting the workforce** – AI and robots handle tedious or dangerous tasks, while human workers focus on higher-skilled activities¹⁵. The net effect is improved efficiency and potentially lower labor costs per unit of work. In preconstruction, teams now assess which portions of a project can be prefabricated or automated and plan accordingly. The upfront coordination required for modularization is higher (and must be factored into preconstruction schedules), but the payoff is fewer delays and cost overruns later. As one industry VP put it, *"the integration of AI and modular methods can help deliver projects on time and within budget, while freeing professionals to focus on the most impactful aspects of their work"*¹⁵.

- **Data-Driven Decision Making:** A subtle but significant impact of technology is the cultural shift toward data-driven decisions in construction. With cloud-based project management, IoT sensors on sites, and AI analytics platforms like Slate Generate, preconstruction teams have more data at their fingertips than ever. **Dashboards now provide real-time cost tracking and performance metrics**, allowing continuous monitoring of how a project is trending versus the estimate¹¹. For instance, if an ongoing project's cost curve starts to deviate, that insight feeds back into preconstruction of the next phase or future projects, enabling continuous improvement. Solutions like Slate Generate consolidate all project data into one central platform where team members can contribute their expertise and productize the planning process, with some clients reporting time savings of approximately 60 hours per revision. Big data analysis also helps in value engineering during preconstruction – by examining historical cost databases, AI can suggest alternative materials or methods that achieve the same function at lower cost. Additionally, conversational AI interfaces (like chatbots) are being introduced to query project data in plain language¹⁵. This means a project executive could ask an AI assistant, "What is the biggest risk to my budget?" and get an instant analysis, rather than waiting for lengthy manual reports. The result is faster decision cycles and more informed strategy setting. Companies that succeed in centralizing and leveraging their data through platforms like Slate Generate will have a competitive edge in 2025, as they can foresee trends (like which type of projects often run over budget, or which subs consistently outperform) and adjust their preconstruction planning accordingly. In short, technology and AI are empowering construction teams to **"work smarter, not harder"** in the preconstruction phase, as one construction executive noted, by automating tedious tasks and providing deeper insights for planning¹².

Market Dynamics and Macroeconomic Factors

Several broader market conditions will shape the preconstruction environment in North America for 2025:

- **Demand Fluctuations by Sector:** Overall construction demand is expected to increase in 2025, but growth will be uneven across sectors. **Residential construction is rebounding** strongly as interest rates dip – single-family housing starts could rise ~9–10%, and multifamily starts may jump by 15% after a slow 2024⁷. This resurgence in homebuilding will keep preconstruction teams busy in the residential sector, though it also means residential contractors may strain the already tight labor and material markets. **Infrastructure and manufacturing construction are booming**, fueled by federal funding and industrial policy. Government investment from bills like the IJJA (Infrastructure Investment and Jobs Act) continues to flow into highways, bridges, transit, and also semiconductor fabs and EV battery plants⁷. Firms focusing on these projects have strong backlogs going into 2025. Conversely, **commercial real estate construction is more mixed**. Sectors like data centers and healthcare are growing (data center construction is robust due to surging cloud computing needs⁷), but traditional office construction remains weak due to high vacancies and the shift to hybrid work. Retail and hotel construction are cautiously recovering as consumer behavior stabilizes. The AIA Consensus Forecast predicts that **nonresidential building spending will slow significantly in 2025–26** after growth in prior years¹³, suggesting that some commercial developers are pulling back. For preconstruction planners, this means the *type* of projects in the pipeline may shift – possibly fewer speculative office towers, but more renovations, conversions (e.g. offices to residential), and a focus on public and industrial works. **Contractor competition is intense in softer markets**; for example, many firms are bidding on the limited new office jobs or educational projects, which can drive down margins. On the flip side, in hot sectors like infrastructure, contractors may be selective and even turn down work if they are at capacity.
- **Interest Rates and Financing Climate:** As mentioned, a potential easing of interest rates in 2025 is a major factor. Higher interest rates over 2022–2023 significantly increased the cost of capital for developers, stalling some projects. Now, with the Federal Reserve signaling rate cuts (100+ basis points of reduction expected from 2024 into 2025)⁷, **borrowing costs should decline**. Lower interest rates reduce monthly loan payments for projects, improving feasibility and encouraging investments in real estate development⁶. We're likely to see some projects that were on hold due to financing costs move forward as loans become cheaper. However, the financing climate is not just about rates – lenders are also assessing risk more stringently. The fallout from high office vacancies and potential defaults

makes banks cautious, especially on commercial building loans⁵. So while rates may drop, **credit availability could remain tight** for projects deemed risky (like a new office building in a city with 20% vacancy). In preconstruction, developers might need to show stronger pre-leasing or financial buffers to secure loans. Additionally, if inflation remains above target, lenders might bake in more contingency or insist on fixed-price contracts to hedge their risks. **Public-sector funding** is a bright spot: many public infrastructure projects benefit from federal grants with fixed allocations, so those will proceed independent of interest rates. In summary, a friendlier interest rate environment in 2025 should boost construction starts, but the overall financing picture will reward well-planned, well-justified projects and could sideline those that don't pencil out under more conservative underwriting.

- **Contractor Capacity and Competition:** The construction industry's capacity to take on work is being tested. **Large backlogs** in certain segments (like infrastructure, industrial, and residential) mean top contractors are busier than they've been in years. This can lead to subcontractor shortages or bidding wars for reliable subs. Some owners are observing fewer bidders on projects in high-demand areas, as contractors can afford to be choosy. Where demand outstrips supply of contractors, we may actually see **upward pressure on bid prices** (contractors factoring in higher margins or risk premiums). Conversely, in segments that are cooling (say, high-rise office construction), contractors from those areas may *pivot into other markets*, increasing competition there. For example, a commercial builder with fewer office jobs might start bidding on healthcare projects, adding competitive pressure for firms already in that space. **Margins in 2025 will vary by sector:** infrastructure contractors might see healthy profits due to ample work and negotiated contracts, while building contractors in over-supplied markets may cut margins to win jobs. Another dynamic is the **consolidation in the industry** – large firms acquiring smaller ones could alter the competitive landscape and pricing. Preconstruction managers should keep tabs on market reports for their region: understanding whether construction volume is expected to rise or fall in that locale will inform how aggressively to price and how many bidders to expect. In an environment with generally high demand, one risk is *schedule competition*: multiple projects vying for the same subcontractors or materials at the same time. Early coordination (even booking key trades in advance) is becoming a tactic to ensure your project isn't left waiting in line. All told, the contractor market in 2025 will be balanced between boom conditions in some areas and pockets of oversupply in others, requiring strategic planning during preconstruction.
- **Macroeconomic Conditions (Inflation, Real Estate Trends):** The broader macro context underpins everything. **Inflation** is a double-edged sword – if it continues to

ease, input costs and wages might stabilize, but if it flares up again, the Fed could reverse course and tighten financial conditions, stifling construction. Many preconstruction estimators now include escalation assumptions for multi-year projects, often in the 3–5% annual range for key cost items, to hedge against inflation risk. **General real estate trends** also influence preconstruction decisions: for instance, urban multifamily developers are assessing *post-pandemic occupancy rates* and rent growth in cities before green-lighting new towers. In some Sunbelt markets, population growth is driving a need for more housing and schools, boosting project pipelines; in other areas, out-migration or slow growth means fewer projects. The *work-from-home* phenomenon has left many office buildings underutilized – a trend that's prompting preconstruction planning for conversions of offices into apartments or labs, which can be complex and costly but potentially lucrative if executed well. **One notable trend is adaptive reuse:** instead of ground-up builds, developers are increasingly looking at renovating existing structures (cheaper and faster to market in some cases). Preconstruction teams may find themselves doing more feasibility studies on reuse of aging assets, which requires careful cost and risk analysis (unexpected conditions in older buildings are a risk factor to account for). Additionally, construction input costs are tied to global commodity cycles – oil, steel, copper prices in 2025 will be influenced by global demand (e.g. China's economy). If commodities surge due to global growth, that will feed into material costs locally. Keeping an eye on macro indicators like commodity indexes, employment reports, and consumer sentiment can give early warning of shifts that might affect construction bids and budgets. In essence, **preconstruction planning in 2025 must be done with a macro-aware mindset**, balancing current market conditions with contingency plans for economic shifts.

Expert Predictions and Industry Insights for 2025

Leading industry experts and organizations have weighed in with forecasts and guidance for construction in 2025. Here are some notable predictions and insights shaping expectations:

- **Continued Growth, With Caution:** Most analysts foresee growth in construction activity in 2025, albeit at a moderated pace. Richard Branch, chief economist at Dodge Construction Network, projects an **8.6% increase in total construction starts** in 2025, on top of solid growth in 2024⁷. Dodge expects especially strong gains in residential building (over 11% growth) as that sector rebounds⁷. However, Branch also notes that this optimistic forecast **hinges on interest rates falling and stable policies**. In Dodge's view, the election of pro-business leadership could boost contractors through tax cuts and streamlined regulations, accelerating

projects in planning⁷. At the same time, Branch warns that *"tariffs could pose an issue"* by raising costs, and that an immigration crackdown could worsen labor shortages and cause project delays⁷. This mix of positive outlook with caveats is echoed by others: The American Institute of Architects' Consensus Forecast similarly predicts growth in 2025 for most nonresidential categories, but a *"dramatic slowing"* in 2026, indicating some concern about the longer-term economic cycle¹³. The takeaway for stakeholders is guarded optimism – opportunities are there, but so are pitfalls if costs spike or the economy wobbles.

- **Infrastructure and Manufacturing Leading the Way:** Experts highlight that public infrastructure and manufacturing-related construction will be key drivers in 2025. Alison Black, chief economist of ARTBA, points to many U.S. states increasing their own funding to match federal infrastructure dollars, which will sustain heavy highway and transportation construction through 2025⁷. Large contractors are gearing up for a multi-year wave of infrastructure projects (roads, transit, airports, water systems) thanks to federal programs. Meanwhile, trillions in private and public investment in high-tech manufacturing (semiconductor fabs, EV battery plants, energy facilities) are materializing as construction jobs. FMI's 2025 outlook noted manufacturing construction saw unprecedented growth in 2023–24 and will continue to contribute meaningfully in 2025⁷. These mission-critical projects often involve complex preconstruction planning, and firms in those sectors are expanding capacity. An important side effect predicted by industry observers like **Deloitte** is increased pressure on the skilled labor pool due to these mega-projects – skilled trades may migrate to where the big jobs are, potentially leaving other regions or sectors short-handed⁶. Thus, while infrastructure and manufacturing are boon markets, they could intensify the talent war and supply chain competition, a dynamic stakeholders must plan for.
- **Persistent Talent Shortages:** Virtually every expert commentary on 2025 emphasizes the workforce challenge. Ken Simonson, chief economist of AGC, notes that contractors have been **"moderately optimistic"** about demand but increasingly anxious about finding workers to execute the work². AGC's own surveys show rising labor costs and workforce quality as top concerns for contractors heading into 2025, with over half of firms planning to expand headcount if they can find the people¹⁰. Deloitte's Engineering & Construction outlook bluntly states that *"talent shortages are likely to remain a key concern"* and could even **delay projects in sectors like energy development** if not addressed⁶. Experts are urging strategies like greater use of automation, better outreach to young workers, and improving job conditions to broaden the labor force⁶. On a hopeful note, some predict the labor gap *may* start to slightly ease by late 2025 if economic conditions soften demand, but that's far from certain. For now, all signs point to labor remaining a critical constraint on the industry's ability

to capitalize on opportunities.

- **Impact of Technology and AI:** Technology leaders in the construction space predict 2025 will see **wider adoption of AI and automation in daily workflows**. Mark Webster of Oracle Construction forecasts that AI "agents" will become like *"eager assistants"* to project managers – handling tasks such as analyzing drone survey data, optimizing delivery logistics, and flagging weather or supply chain risks in advance¹⁵. This should help reduce delays and keep projects on budget. Similarly, Autodesk's construction tech experts describe 2025 as shifting from *"reactive old-school fire drills"* to proactive AI-driven decision-making on projects¹². Platforms like Slate Generate exemplify this shift, with their ability to compress the collective decision tree and reduce the number of decisions needed by up to 80%, helping teams avoid costly mistakes while producing documentation in various formats including bills of quantities, proposals, 3D models, and 2D drawings. Construction tech experts envision AI systems monitoring jobsite conditions in real time (via sensors and cameras) to improve safety and prevent accidents¹² – which, aside from saving lives, also avoids costly work stoppages. Jeff Gerardi of Autodesk highlights that consolidating project data is unlocking AI's full potential to **"improve efficiency, enhance accuracy, and enable better decision-making"** from preconstruction through project completion¹². We also hear from construction executives like Karima Jones at Turner Construction, who says given the high demand and labor struggles, *"AI will help automate some of the tedious portions of our job, aiding project teams to work smarter, not harder"*¹². In essence, experts across the board agree that 2025 will not just be about recovering from recent challenges; it will also be a year where **technology leap-frogs forward** in daily use, fundamentally changing how preconstruction planning and risk management is done. Stakeholders are advised to invest in these tools or risk being left behind.
- **Cost Trajectory and Inflation Expectations:** On the cost front, consultancies like Rider Levett Bucknall (RLB) and CoreLogic are projecting relatively moderate construction cost inflation for 2025, absent any external shocks. RLB's North America forecast as of late 2024 saw cost escalation around 4–5% annually², which is higher than general inflation but much lower than the double-digit spikes of two years ago. Ed Zarenski, a respected construction economist, notes that long-term construction cost inflation tends to average ~4–5% and expects a return to that range, with **non-residential building costs rising roughly 4.8% and residential around 5.4% in 2025**¹⁴. However, this assumes no major tariff impacts or supply crises. If new tariffs are enacted (a scenario some forecasts consider likely under the new U.S. administration), **all bets are off** – cost indices could jump more abruptly mid-year. Also, certain segments could see higher inflation: electrical and mechanical equipment costs have been rising faster than general

indices⁴. To quote one expert, *"it almost certainly wouldn't look like the cost pressures of the last few years [2021–22], but tariffs absolutely would not help to slow inflation"*². The consensus is that careful cost monitoring is needed in 2025. Many project owners are adding escalation clauses or allowances in contracts to handle this uncertainty, per legal advisors who've seen a **"resurgence in material price escalation terms"** to protect both contractors and owners¹⁶.

In summary, industry leaders are signaling a year of growth and innovation, but one that requires vigilance. **Being proactive** – whether in adopting new tech, securing labor, or locking in material prices – is repeatedly emphasized in these expert outlooks as the way to succeed in 2025's preconstruction environment.

Strategies to Mitigate Risks and Optimize Costs

Given the trends and risks outlined, what practical steps can stakeholders take to navigate 2025 successfully? Below are several actionable insights and strategies for owners, contractors, and preconstruction professionals to control costs and reduce risk exposure:

- **Early Procurement and Price Locking:** To counteract material price volatility, consider purchasing critical materials early or negotiating fixed-price agreements with suppliers during preconstruction. By **locking in prices** for steel, concrete, key equipment, etc., you can avoid surprise cost spikes mid-project. Many contractors are also including **material escalation clauses** in contracts – these clauses allow price adjustments if costs exceed a certain threshold due to market swings¹⁶. Such clauses share the risk between owners and contractors and provide a safety valve if unforeseen tariffs or shortages hit. *Tip:* Leverage bulk purchasing or group-buy programs (perhaps across multiple projects) to get better pricing and ensure availability of scarce materials.
- **Diversify Suppliers and Build Resilience:** Avoid reliance on a single supplier or subcontractor for essential project components. The failure or insolvency of a key vendor can derail a project³. Proactively **vet vendors' financial stability** and have backup options for major scopes³. It's wise to **diversify supplier relationships to prevent single points of failure**³. For example, source materials from multiple regions when possible – domestic and international – to hedge against regional disruptions. Some firms are **stockpiling critical materials** (like fasteners, electrical components) in limited quantities as a buffer³. While carrying inventory has a cost, it can save immense delay costs if a shortage arises. Essentially, think of supply chain management as a risk management exercise in preconstruction: build

flexibility and redundancy into your procurement plans.

- **Invest in Preconstruction Technology:** Harnessing the right technology can yield immediate cost and risk benefits. **Building Information Modeling (BIM)** and 3D coordination software should be standard – use them to run clash detection and optimize designs before anything is built, greatly reducing costly rework and change orders later⁶. **Estimate with AI-powered tools like Slate Generate** that can analyze historical data; this will improve accuracy and flag anomalies in your cost assumptions (the AI might catch that your concrete unit cost is out of line with current trends, for instance). Slate Generate's parametric computational design capabilities can automate the generation of project documentation and allow team inputs to be captured in real time, with some clients reporting up to 90% time saved from takeoff to estimating and 70% overall design time saved. Adopting **project management platforms with real-time data dashboards** allows the team to monitor budgets, schedules, and risks continuously, enabling quicker adjustments. Drones and reality capture during preconstruction site analysis can also prevent costly surprises (e.g. identifying terrain issues or conflicts with existing utilities early). While tech investments have upfront costs, the ROI in preventing delays or overruns is high. One recommendation is to start with pilot programs – identify one or two areas (say, automated takeoff software or a scheduling AI) and implement them on a project to build confidence and expertise, then scale up. In 2025, not leveraging available tech is arguably a greater risk than the cost of adoption, given how much these tools can improve efficiency.
- **Enhance Workforce Development and Retention:** Labor risks can be mitigated by thoughtful workforce strategies. Contractors should **build a pipeline of skilled workers** by expanding apprenticeship and training programs³. Partner with trade schools, support vocational programs, and consider internal upskilling initiatives to grow your own talent. To attract and retain workers in a competitive market, invest in your people: competitive wages (budget for steady wage growth), but also benefits like healthcare, childcare support, and clear career progression paths. Emphasize safety and work-life balance to improve job satisfaction – for example, some firms are rotating crews to prevent burnout on intense schedules. Another tactic is **recruiting from non-traditional labor pools**: for instance, reach out to military veterans, or train workers from other industries who have transferable skills. Also, **use labor-saving construction methods** wherever feasible (like prefab and modular mentioned earlier) to reduce the number of on-site workers needed without sacrificing capacity. By proactively addressing the workforce issue, you reduce the risk of labor shortfalls delaying your project. As Deloitte's outlook suggests, integrating automation can even help retain older workers by reducing physical strain, and attract younger tech-savvy workers by modernizing the

jobsite⁶.

- **Conduct Thorough Risk Planning and Scenario Analysis:** Before construction starts, perform rigorous risk workshops to brainstorm what could go wrong in cost, schedule, quality, and safety. Develop a **risk register** with quantified impacts and likelihood for each risk event (e.g. "concrete price increases 10%," "key subcontractor defaults," "hurricane causes 2-week shutdown"). For high-impact risks, create mitigation plans now. For example, if a project is scheduled through winter in a cold climate, plan for heated enclosures or adjust the sequence to mitigate weather risk. Use **scenario analysis**: what if the project launch is delayed 6 months – how does that affect costs? What if interest rates drop more than expected – is there an opportunity to refinance or expand scope? Conversely, what if interest rates spike again? Having these playbooks ready allows quick decision-making if a scenario comes true. Also, ensure your **insurance and contractual risk transfer** are in place: builders risk insurance should cover any material cost inflation during the build, and consider requiring **performance bonds** from critical subs to protect against non-performance³. As the saying goes, "plan for the worst, hope for the best." Preconstruction is the time to do that planning when changes are still on paper and far less expensive.
- **Optimize Design for Cost Efficiency:** In 2025's high-cost environment, value engineering is more important than ever – but it needs to be done intelligently. Engage in **early contractor involvement** or design-build methods so that construction experts can suggest cost-saving alternatives during design development. Use data from past projects to guide design decisions: for instance, if a certain façade system has proven too costly or prone to supply issues, opt for a more cost-effective design early. **Life-cycle costing** is also key; sometimes spending a bit more upfront on a durable material can save huge maintenance or retrofit costs down the line (owners are increasingly looking at operational energy costs, for example). Leverage the latest products and methods: e.g. high-strength concrete can allow smaller structural members (less material), modular electrical systems might cut labor, etc. Additionally, keep an eye on **regulatory trends** so you can design to meet future codes now – avoiding redesign later. Being flexible and iterative in design – perhaps maintaining a few alternative options for certain systems – gives you the ability to pivot if prices change. For instance, you might plan for either asphalt or concrete paving and make the final call when you lock in material pricing. A lean, optimized design not only saves money but also reduces complexity, which in turn lowers risk.
- **Stay Informed and Agile:** Conditions in 2025 can change rapidly. It's crucial for stakeholders to **stay informed through continuous market research and networking**. Subscribe to industry cost indices and economic reports; if steel

prices begin climbing or a new tariff is announced, you want to know immediately to update your estimates. Maintain close communication with suppliers and subcontractors – they often have the earliest sense of impending issues (like a shortage of a particular material or an upcoming labor union action). Engaging with industry associations (AGC, NAHB, etc.) can provide heads-up on policy changes or emerging best practices. In addition, maintain some **agility in project planning**. Where possible, incorporate flexibility in contracts (maybe allow for some scope variation) and schedule (build in float or phased notice-to-proceed for parts of the work) to adjust to changing circumstances. If an economic downturn were to manifest mid-2025, have a plan for cost-cutting or resequencing work to ride it out. If, conversely, an opportunity arises to accelerate (say interest cuts make financing a phase 2 feasible sooner), be prepared with a ready-to-go package. In short, treat preconstruction planning as a living process. The teams that keep a pulse on the market and are ready to adapt will **significantly mitigate the risks** that 2025 is expected to bring, and capitalize on efficiencies to keep projects profitable. The construction landscape may be complex, but proactive management and innovation at the preconstruction stage give stakeholders the best shot at success – controlling what they can and preparing for what they can't.

References

1. [constructiondive.com/news/construction-trends-outlook-2025/738819](https://www.constructiondive.com/news/construction-trends-outlook-2025/738819)
2. urbanland.uli.org/february-economist-snapshot-2025-outlook-for-construction-costs
3. [cbiz.com/insights/articles/article-details/challenges-shaping-the-construction-industry](https://www.cbiz.com/insights/articles/article-details/challenges-shaping-the-construction-industry)
4. interactive.usa.skanska.com/skanska/skanska-construction-trends-winter-25
5. hubinternational.com/-/media/hub-international/PDF/Outlooks-2025/US/2025-Outlook-Construction-US.pdf
6. [deloitte.com/us/en/insights/industry/engineering-and-construction/engineering-and-construction-industry-outlook.html](https://www.deloitte.com/us/en/insights/industry/engineering-and-construction/engineering-and-construction-industry-outlook.html)
7. [enr.com/articles/59861-2025-forecast-rate-cuts-expected-to-boost-construction](https://www.enr.com/articles/59861-2025-forecast-rate-cuts-expected-to-boost-construction)

8. hbaofmichigan.com/assets/pdf/Let%27s+Talk+Housing+Talking+Points+2025
9. buildingradar.com/construction-blog/regulatory-changes-impacting-construction-navigating-new-rules-and-compliance
10. agc.org/sites/default/files/users/user21902/2024%20Construction%20Hiring%20and%20Business%20Outlook%20Report_V2.pdf
11. 123worx.com/blog/ai-is-revolutionizing-construction-cost-estimation
12. autodesk.com/blogs/construction/top-2025-ai-construction-trends-according-to-the-experts
13. instagram.com/toughcomp_wc/p/DG0rFyrO4K3
14. edzarenski.com/2025/02/21/construction-inflation-2025-2-21-25
15. enr.com/articles/60084-2025-predictions-embrace-ai-to-help-create-a-safer-more-efficient-construction-industry-says-it-giant
16. constructiondive.com/news/tariff-risk-tips-construction-contracts/740768