

13th Annual Construction Disputes Report  
North America | 2023



Embracing change  
moving forward



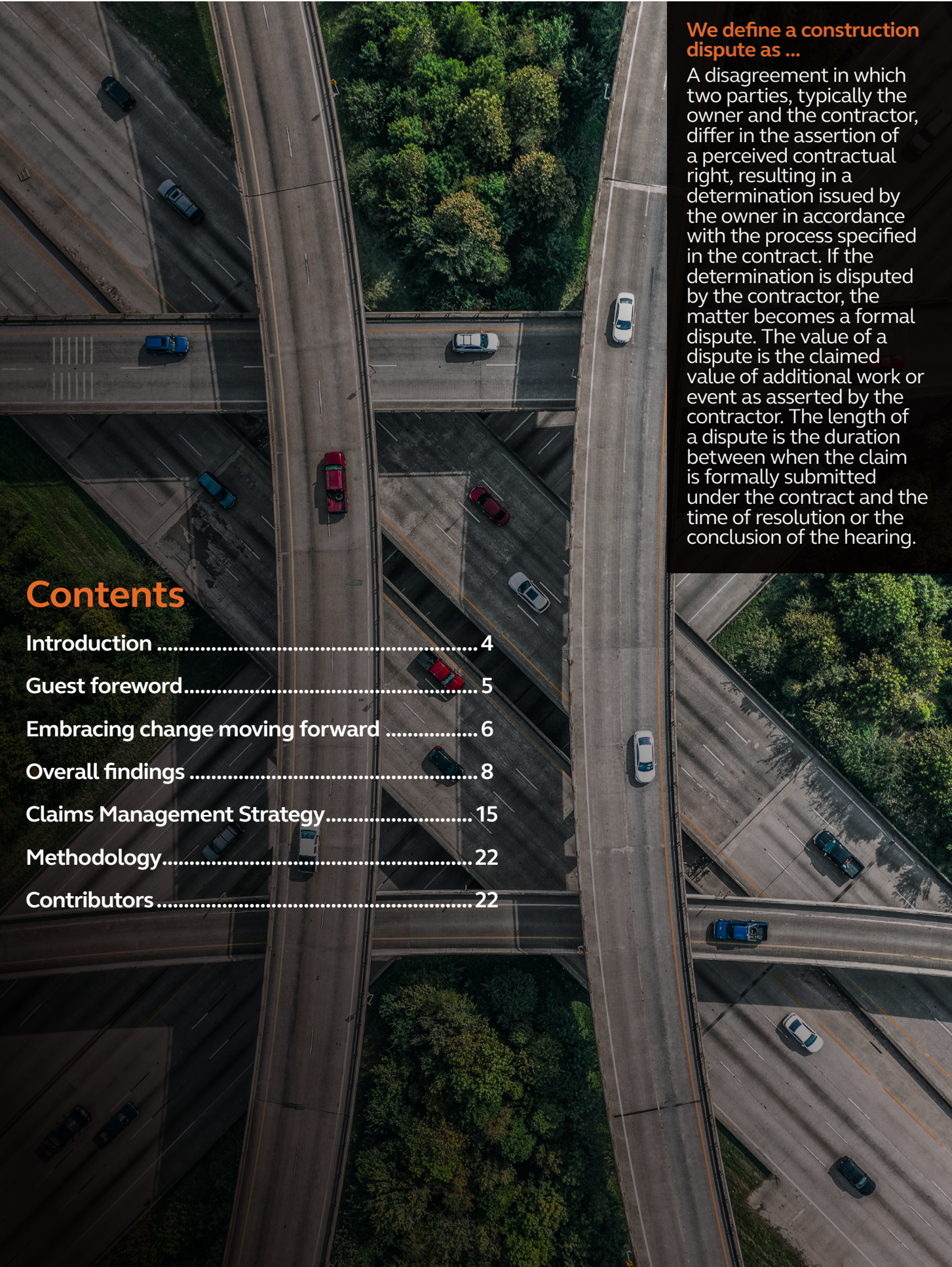
# Embracing change moving forward

From 2021 to 2022 the average value of disputes in North America increased by 42% and remains at historically high levels compared to 2021 and earlier. The average time taken to resolve disputes decreased by 19% but has remained relatively consistent over the last ten years.

This year's report focuses on the industry's need for adaptability on construction projects. Stakeholders are faced with more demanding expectations and impacts on projects, including Environmental, Societal and Governance (ESG), market conditions such as supply chain issues and climate change.







**We define a construction dispute as ...**

A disagreement in which two parties, typically the owner and the contractor, differ in the assertion of a perceived contractual right, resulting in a determination issued by the owner in accordance with the process specified in the contract. If the determination is disputed by the contractor, the matter becomes a formal dispute. The value of a dispute is the claimed value of additional work or event as asserted by the contractor. The length of a dispute is the duration between when the claim is formally submitted under the contract and the time of resolution or the conclusion of the hearing.

**Contents**

Introduction ..... 4

Guest foreword..... 5

Embracing change moving forward ..... 6

Overall findings ..... 8

Claims Management Strategy..... 15

Methodology..... 22

Contributors ..... 22



# Introduction

Welcome to the 13th Annual Arcadis Construction Disputes Report: *Embracing Change Moving Forward*, which reveals key trends and insights into the construction disputes market in North America.

While every dispute is unique, recognizing trends in common causes and tracking statistical averages provides valuable insight into industry issues and can steer project participants toward best practices and away from potential problems. This year, we have decided to focus solely on North America and the factors that have had the biggest impact on construction over the last year. Guided by our experience over the past year, we are pleased to share our findings regarding current market trends.

Our research indicates the construction industry is rapidly changing and there are new impacts to projects that have accelerated over the past year including ESG requirements. Society and thus project owners are being required to consider environmental and social factors as they move forward with their projects. This is forcing project participants to do things differently.

The impact of inflation has been felt throughout the country. The construction industry is no different. In 2022, the industry has also experienced unprecedented impacts due to inflation. Arcadis' 2023 International Construction Costs Index states "the United States construction market is valued at around \$1.95 trillion and accounts for about 4% of the United States economy. Economic uncertainty and rising inflation through 2022 impacted the construction market, with recent figures suggesting it will have contracted about 6% during the last 12 months."

Another challenge going forward in the construction industry will be mitigating the effects of supply chain issues that have plagued the industry over the last couple of years, as well as the unprecedented and unpredictable changing weather patterns.

The report also reveals the following:

- Respondents are anticipating seeing more disputes in 2023 than in 2022.
- Risk management continues to gain momentum in the industry and is an effective method in the avoidance of disputes.
- Over 30% of respondents have encountered project impacts due to price escalation and supply chain issues.
- The transportation sector remained in the top slot having the most disputes during 2022 for North America.

If you have any feedback or insight that you wish to share, please contact us.



**Eric Schatz, PE, PSP, CFCC**

Leader of Contract Solutions,  
North America

[eric.schatz@arcadis.com](mailto:eric.schatz@arcadis.com)





# Guest foreword

John Cook, Esq.

Fox Rothschild LLP, Washington, DC

Chair - Forum on Construction Law, American Bar Association

I am honored to write this foreword to the annual Arcadis Construction Dispute Report. The Report is a critical tool in assessing the nature, type, and resolution mechanisms of disputes in our ever-changing industry. The historical information presented in the Report becomes a means to educate our view of the future and fuel adaptation.

The construction industry is facing a swiftly changing environment. The impacts of COVID-19 are waning. Efforts to battle climate change are on the rise. The use of prefabricated and modular construction is increasing. Supply chain issues and price escalation continue to choke the industry. Finding adequate labor presents a growing challenge. Designs place an increased emphasis on sustainability. Dramatic advances in construction technology – from drones to AI – transform processes and performance.

The Report provides hints on how the construction industry is embracing this ever-changing environment. The Report cites Risk Management as the most effective dispute avoidance technique as one might expect from an industry becoming more comfortable with changes and understanding how to allocate those risks. The Report reveals that “willingness to compromise” by the Owner/Contractor is the most important aspect for early resolution of disputes. Such willingness to compromise is a sign of comfort with the environment and perhaps an indication that expectations are high about the coming workload.

The Report also highlights examples of slower adaptation. Overall dispute durations dropped from 2022 numbers, likely due to the abatement of COVID. However, dispute resolutions are still averaging over 13 months. The modifications in the area of dispute resolution (more frequent use of DRBs, mandatory mediation, and the like) have not yet resulted in a significant reduction in dispute durations. Perhaps the blame rests with the more frequent use of mandatory, non-binding dispute procedures, which, if unsuccessful, actually elongates the dispute duration.

The rapid changes in our industry place a premium on adaptation. The Report provides an annual snapshot of the industry’s efforts, allowing us to assess our role in the ever-changing landscape.



# Embracing change moving forward

**History and conventional wisdom suggest that there is a nexus between the strength of the construction economy and the frequency of claims, and the time needed for resolution.**

When the construction industry is “healthy” and everyone is busy with a robust backlog, the likelihood of increasing claims activity is low. Instead, everyone is focused on a continuing string of active projects. There is diminished incentive to chase claims as planning and execution of new projects is more urgent and holds a higher priority. Of course, the converse should also be true. A slow construction industry would exhibit heightened claims activity as traditional sources of revenue, new project starts, are less available. Arcadis previous years’ Construction Disputes Reports have correlated this pattern through several cycles in the economy and industry. Will the same hold true for 2023? Is the construction

industry “healthy” or is a slowdown looming in the future?

Only a year ago, the construction industry was reeling from multiple global events which impacted virtually every aspect of the industry and the global economy. The Russian invasion of Ukraine and the continuing effects of the COVID-19 pandemic in previously quarantined areas combined to create challenges to capital program planning all the way through successful project completion. Material shortages and labor shortages drove escalating costs and an inflationary cycle was in full gear. While federal funding of public infrastructure projects had provided financial impetus for new projects to mitigate a potential industry-wide slowdown, other sectors such as commercial real estate were already beginning to feel the effects of these headwind challenges.

**As we near the second half of 2023, challenges from the start of the year have not been resolved, and instead are compounded by new crises impacting the economy as a whole.**



## Social and economic factors affecting construction industry

- Inflation
- Construction Cost Increases
- Global Supply Chain Disruptions
- Workforce Recruitment and Retention



Rising interest rates, spurred by the Federal Reserve, were intended to cool inflation while stopping short of causing a recession. The rate increases have cooled the economy somewhat, but not to the desired level and further increases are likely. Moreover, actual and potential bank failures have further impacted lending and clouded short and long term planning. At the same time, the emergence of projects spawned by the infrastructure federal funding is beginning to come to market. In the public sector and select private sector markets, there is no shortage of project opportunities.

With the many crosscurrents affecting the economy and construction industry, the questions asked and answered by the Arcadis Construction Disputes Report is whether the number and value of disputes would increase or decrease, and whether the period needed to resolve these disputes would be longer or shorter than previous years.

**The construction industry has come to accept, and even expect some degree of disputes during the project – zero claims and disputes is an aspiration, but not always a reality.**

Owners have fully embraced best practices such as risk management and constructability reviews which aim to improve the planning process, clarify and confirm project documents and as a consequence, reduce or avoid altogether, the probability of a major dispute. These best practices will remain in place regardless of the health of the economy and industry.







# Overall findings

**The average value of disputes increased significantly from 2021 to 2022, though the average time taken to resolve disputes decreased marginally. The values of disputes in 2022 were significantly higher than values seen in 2020 and earlier.**

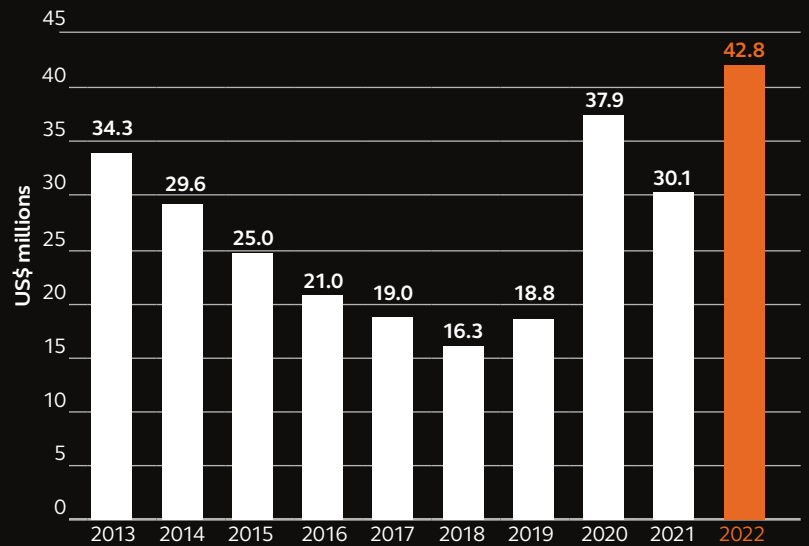
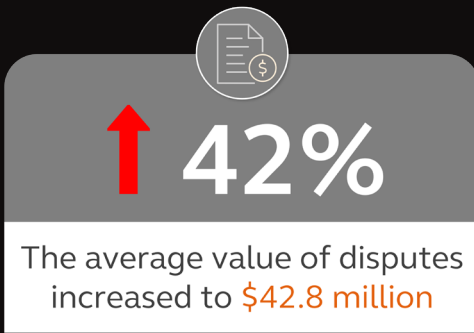
A majority of survey respondents experienced disputes due to supply chain impacts and price escalation. Overall, our respondents handled more disputes in 2022 than in 2021, and we expect this to increase in 2023. As noted in the introduction, this year's report highlights the rapid changes and impacts that the construction industry is currently facing. This is forcing project participants to do things differently.



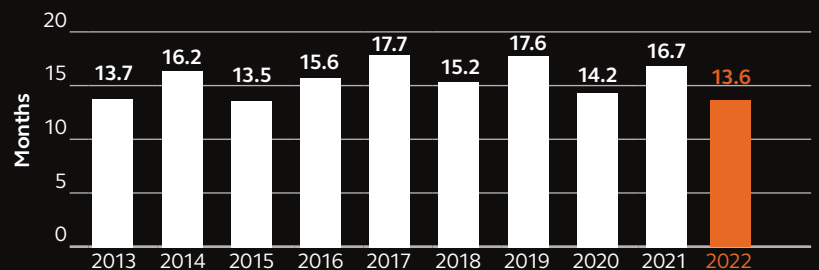
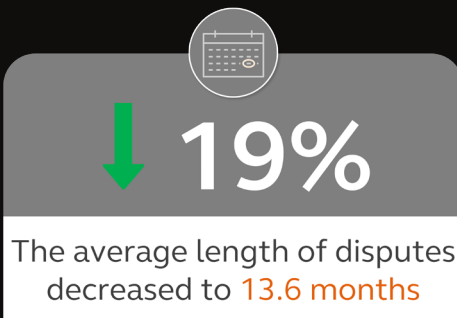
For North America, the 2022 results show that the **transportation—highways, bridges, mass transit, airports, ports** — sector saw the most disputes, the same as 2021.

The highest value dispute reported by the respondents was

**\$2 billion** (US)



North America Average dispute value



North America Average dispute length



## Overall dispute cause

2022 Rank		2021 Rank
1	Errors and/or omissions in the contract document	2
2	Owner/Contractor/Subcontractor failing to understand and/or comply with its contractual obligations	5
3	Poorly drafted or incomplete and unsubstantiated claims	1

## Most effective claims avoidance techniques

2022 Rank		2021 Rank
1	Risk management	2
2	Contract and specification reviews	1
3	Constructability reviews	3

## Most important factors in the mitigation/early resolution of disputes

2022 Rank		2021 Rank
1	Owner/contractor willingness to compromise	1
2	Accurate and timely schedules and reviews by project staff or third parties	3
3	Contractor transparency of cost data in support of claimed damages	2





# North America

Over the past year, the average value of disputes in North America increased to \$42.8 million from \$30.1 million. This is by far the highest value that we have seen and double what we saw from our 2016-2019 survey results. This illuminates the challenges and changes that society and the industry has experienced since 2020.





The average time taken to resolve construction disputes for North America decreased to 13.2 months in 2022 from 16.7 months in 2021, making the average over ten years 15.3 months. This demonstrates that certain participants continue not to provide proper notice or follow the procedures laid out in the contract for filing and resolving disputes.

Last year's report, *Successfully Navigating Turbulent Times*, addressed the theme of new challenges in the construction industry including social and economic factors, along with supply chain impacts and material cost increases. These all had a significant impact on the owner's cost and contractor's profitability. Some contractors did not fully address these risks, and contract language may not have reflected these new challenges resulting in more disputes and higher value disputes.

Our survey results for the 2023 report reflect our concern highlighted in the 2022 Arcadis Construction Disputes Report. As expected, the challenges discussed in last year's report including uncertainties in the market, delivering on the \$550 billion United States Infrastructure Act, and a shortage of skilled workers did lead to an increase in construction claims. In addition, according to Forbes, the inflation rate has increased from 4.2% in 2021 to a staggering 7.5% in December 2022. CNBC states that the public transportation inflation rate

increased by 18.9% from December 2021 to December 2022. The construction industry was not been fully prepared for this economic change, and it significantly affected contractor costs on projects bid before 2021. Owner budgets moving forward have also been affected.

This year construction dispute values hit a peak for North America at \$42.8 million. This is the highest we have seen over the span of the thirteen years publishing the Arcadis Construction Disputes Report. Over the past three years dispute values have continued to rise from \$18.8 million in 2019. This is an increase of \$24 million at 128%. The transportation market in North America continued to see the most disputes. Economists predict inflation will decrease throughout 2023. The response to these economic changes is key to the success of construction projects moving forward.

#### Dispute causes

Topping the list as the most common cause for construction disputes in North America for 2022 was errors and/or omissions in the contract documents. This is a change from last year's survey results which had poorly drafted or incomplete and unsubstantiated claims in number one spot. These causes consistently appear in the top three. Respondents commented that incomplete and underdeveloped

design documents led to owner directed changes and that owners are often rushed during the design stages in order to get projects off the ground. As many owners have embraced alternative project delivery (APD) methods such as design-build and CM-at-risk, there was an expectation from the industry that these methods would eliminate many of the errors and omissions that routinely

**This year, 30% of respondents experienced disputes on their projects due to supply chain impacts and price escalations.**



occur on projects. However, as we have seen even with the use of APD methods, disputes related to the interpretation of initial plans and corresponding design criteria are prevalent. We continue to see construction disputes related to coordination, project staging, and differing site conditions. The trend we discussed in last year's report continues, as the potential for errors and omissions in contract documents is exacerbated by the design and construction of larger and more complex projects being delivered in tighter timeframes than ever before.

The second most common cause for disputes in North America for 2022 was Owner / Contractor / Subcontractor failing to understand and/or comply with its contractual obligations. This is closely related to the top cause in this year's survey results. Many of the comments we received in this year's survey results highlight project participants' lack of understanding and lack of compromise. This points to the criticality of making sure that design

documents are developed appropriately for the type of project and that there is a clear understanding between the project participants of what is required in the contract. Even when this does happen, it won't always prevent a dispute due to the unwillingness of participants to see outside of their own interpretation.

#### Solutions looking forward

The unanticipated events that occurred over the last three years such as a global pandemic, supply chain issues, and record high inflation all caught the construction industry off guard. All of these factors led to an increased number of disputes. Projects that were able to move ahead and be successful had team members who were adaptable and strategically coped with these challenges. There certainly is more change ahead of us that is unknown as well as some that can be anticipated. Anticipating and embracing change, however it comes, will be vital to complete projects successfully and reduce construction disputes.

**36% of respondents acknowledged that effective risk management is the most effective claims avoidance technique.**







There are still things that can be done to better position ourselves for the unknown changes ahead of us. Our survey results show that risk management continues to top the list as one of the most effective claims avoidance techniques. Effective risk management and dispute avoidance starts at the beginning of a project and involves all of the project participants.

A well-thought-out risk management program throughout the lifecycle of the project has proven to identify potential issues ahead of time, therefore giving the project participants time to address their potential schedule and cost implications. According to our 2022 survey results, the second most effective dispute avoidance technique is contract and specification reviews. The events of the past few years compelled owners to re-examine their contract language in the areas of force majeure, and escalation for example.

While we have experienced many unknown changes, the industry is in the midst of other known and exciting advancements. It is essential that our industry embraces a more demanding expectation of the final deliverable of

construction projects. Sustainability has moved to the forefront in the industry. Projects have new requirements in the design phase to address these societal expectations. This not only affects the design, but it also affects the contractor's requirements and how they approach their role on the project.

President Biden's Federal Sustainability Plan has a strategy for achieving a net-zero emissions buildings goal by 2045. According to the U.S. Department of Transportation, "The Federal Government has set a goal to make half of all new vehicles sold in the U.S. in 2030 zero-emissions vehicles, and to build a convenient and equitable network of 500,000 chargers to help make EVs accessible to all Americans for both local and long-distance trips." These are monumental changes to the infrastructure and buildings sectors.

Owners and contractors alike who proactively prepare and embrace these new obligations on construction will have the most success in avoiding construction disputes.

**The majority of survey respondents reported that the transportation sector had the most disputes in 2022.**





# Claims Management Strategy

Project participants understand that the resolution of construction disputes can be very costly. They are more often seeking to resolve disputes earlier, mitigate them during construction, or avoid them altogether. The following section outlines strategies for avoiding, mitigating, and resolving construction disputes on projects.





# Avoid

**Imagine driving down the highway when you see a warning sign flashing: “Dangerous conditions ahead, proceed cautiously.” Most drivers will immediately slow down and pay close attention to the road conditions and adjust their driving accordingly. Knowing about upcoming risks enables everyone to mitigate or avoid altogether the undesired consequences caused by these risks.**







The same is true for designers, contractors/subcontractors/suppliers and consultants working in the construction industry. The warning sign information is clear – danger ahead due to workforce shortages, inflation and recession, escalating costs of energy, materials and equipment, and supply chain disruptions. The next warning sign adds further concerns regarding a potential banking crisis and the demise of the commercial real estate market. While these challenges may appear daunting, there are also strong tailwinds. The infrastructure sector remains strong with ample government funding sustaining many public sector capital programs. There is little inclination by most to stand and watch on the sidelines. How do owners, designers, and contractors proceed under such perilous conditions?

**To limit potential exposure and liability for unanticipated cost increases, respondents are implementing pricing strategies that include contingencies and specific limitations/qualifications to cost proposals to clarify the risks which are, and are not, included in the cost proposal.**

Further protections include price adjustment provisions in contracts which are indexed to recognized cost

benchmarks. Once price agreements are reached, respondents are further limiting risks through early procurement.

Respondents have also identified actions which target the challenges which we face in the immediate future. To ensure an available, qualified workforce, many respondents have expanded recruitment and developed career pathways which address the needs and expectations of today's workforce. Respondents also recognize the importance of creating an inclusive workplace culture that also resonates with the expectations of a new generation of workers. The forecast of workforce availability for the construction industry is heading in the wrong direction and drastic actions must be taken now to avoid calamitous shortages in the future.

In the face of these current and future challenges, the respondents have also indicated that the occurrence of claims and disputes on projects continues to increase, year over year and expect the number of disputes to increase in 2023. Not surprisingly, the respondents have reacted to these expectations by identifying risk management, contract and specification reviews and constructability reviews as the most effective claims avoidance techniques. A perennial top cause of claims, errors and omissions in the contract documents, is directly addressed through pre-award

reviews that focus on clarity and intent of contract terms and provisions as well as technical reviews of the design documents to confirm completeness and clarity. While the expectation of a “perfect” set of contract documents may be unrealistic, certainly the potential claims which can be avoided by a proper vetting process is worthwhile.

The most preferred technique for claims avoidance is risk management, understandably so. Risk management is specifically intended to identify and quantify the risks which have the potential to impact the project's schedule and cost. By identifying these risks in advance of final design and construction, mitigations and other solutions can be developed and implemented to limit or avoid altogether these potential impacts. Owners are willing to invest the “ounce of prevention” to avoid or minimize claims as a primary strategy.

**Risk management is specifically intended to identify and quantify the risks which have the potential to impact the project's schedule and cost.**





# Mitigate

Suppose you didn't see the warning sign about dangerous conditions ahead and all of a sudden, you are in a skid, heading towards an out-of-control accident? You no longer can avoid the skid, so the next best choice is to mitigate the skid and ensure as soft of a landing as possible.





Construction projects are just as likely to miss the warning signs especially when those signs are subtle, finding themselves beset with delays and disruption conditions that have already started affecting progress and costs.

**The risks that drive the need to mitigate are generally realized risks so the projects are already in a state of delay and since time is an expiring resource, the most that can be done is to regain time later in the project to offset the already lost time.**

This mitigation need elevates the use of proactive optimization techniques to a very important role during the project.

The recent surge in supply chain-related delays caught many stakeholders by surprise, requiring changes in procurement from a just-in-time approach to building some level of inventory to bridge these issues. However, the extent of supply chain delays has been greater than anticipated and continues to plague many sectors of the industry, showing up in claims if not mitigated. Combine these unusual conditions with the normal challenges to production experienced by most contractors and there is a perfect storm of delays that start the path to claims. Respondents identified this volatility in the market and noted the

impacts on schedule, but the supply chain procurement delays also increase cost escalation risks, the solution of which requires careful and reasonable risk allocation.

Fortunately, there is a wide variety of approaches and techniques available to mitigate delays during the project which can be performed at little to no additional cost. Optimizing performance by improved productivity, more accurate duration estimates, exploitation of positive historical trending, improved quality of scheduling, fast-tracking logic networks, moving scope of work into controlled conditions with offsite fabrication, and solid constructable value engineering all contribute to offering practical schedule mitigation to shorten the remaining project duration. These efforts go hand in hand with the typical contractual requirement for contractors to mitigate delays regardless of the source.

Advancing contractor procurement reduces the impact of supply chain issues, and respondents are shifting project delivery methods over to fast-track methods to enable this early contractor engagement. Fast track methods can also be used for optimization during the project, which reduce challenges from availability of resources identified by respondents in the survey as an increasing current and future threat, only exacerbated by

the increased federal funding coming available.

While differing site conditions has not been ranked in the top two dispute causes since 2014, errors and omissions have been one of the top ranked causes now for seven of the past nine Disputes Reports. Type 1 differing site conditions are related to conditions that differ materially from the contract documents, which may have been concealed by the prevalence of errors and omissions. Site conditions that are different from the contract documents may indicate a need for better field investigation and as-built data, and this speaks to the elevated position of risk management in the approach to claims.

This year's survey respondents indicate that risk management is the number one preferred approach to claims avoidance. Risk management is often focused on negative risks or threats, whereas claims mitigation is much more heavily focused on positive risks, or opportunities, to reduce delay quantum and consequence. Respondents specifically commented on the tension in the industry regarding how best to handle these impacts, and mitigation using opportunities to optimize schedule helps build a collaborative culture and reduce those tensions. Implementing positive risk management to identify and exploit opportunities is a continuous performance improvement process that yields great returns on investment.



**Advancing contractor procurement reduces the impact of supply chain issues, and respondents are shifting project delivery methods over to fast-track methods to enable this early contractor engagement.**





# Resolve

**Suppose you have now been involved in a vehicle accident. No one has been injured, but now it is time to call for assistance, to inspect, and to repair the damage. Just as in a construction project, there are multiple stakeholders involved.**







A successful resolution will depend on a well thought-out and structured process with all of the parties involved working together.

As confirmed year after year by our survey, it is no surprise that most project participants want to resolve disputes early. Early resolution typically means an outcome that occurs prior to formal proceedings achieved in a shorter duration. Technology is rapidly changing how construction projects are delivered. This is no different than how disputes are now being resolved. An analysis of thousands of documents can now be expedited through the use of software, which is becoming more commonplace and more advanced in its functionality. Participants who leverage these tools are able to more efficiently understand the strengths and weaknesses of their positions which facilitates early settlement.

Over the past year, the average value of disputes increased substantially from \$30.1 million to \$42.8 million, 42%. This is the highest value recorded over the thirteen years producing the Arcadis Construction Disputes Report. In addition, respondents do not expect to see a decrease in disputes in the year ahead. With construction projects continuing to be larger and more complex, many disputes involve multiple stakeholders. A well-thought-out process that is laid out in the contract is the first step to successfully resolving a dispute. It is also essential for project participants to be accountable for their own contract obligations such as the quality of the design. In addition, the contractor must take responsibility for its own performance, and present actual damages that conform to the requirements of the contract.

The top three causes of disputes in 2022 were:

- Errors and/or omissions in the contract documents
- Owner/Contractor/Subcontractor failing to understand and/or comply with its contractual obligations
- Poorly drafted or incomplete and unsubstantiated claims

These three have routinely shown up as the top causes over the years.

As part of our survey, we asked respondents to provide comments on the most common causes of disputes. This question generated some interesting feedback. One word that was used over and over was “understand.” Respondents voiced that disputes occur consistently due to participants failure to understand contract requirements related to execution of the work and also the provisions related to the preparation and submittal of claims. Many parts of the industry were caught off guard by the supply chain issues over the last couple of years along with the astronomical inflation. Contractors were searching for language that would provide some means of bringing a claim for a time extension along with compensation for delay and escalation. At the same time, owners were reviewing their contract language as it relates to these same issues. The pandemic, supply chain issues and record inflation all seem to have caught the industry unprepared and have been fertile ground for disputes.

**Early resolution typically means an outcome that occurs prior to formal proceedings achieved in a shorter duration.**

**One thing is certain, the construction industry will continue to change. To successfully resolve construction disputes moving forward, project participants will need to adapt to new ways of working including using new technologies all while embracing a spirit of compromise.**





## Methodology

This research was conducted by the Arcadis North America Contract Solutions team. It is based on the survey results within the construction industry. Only input from North America was included in the 2023 report.

## About Arcadis

Arcadis is the leading global Design & Consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. We are 36,000 people, active in over 70 countries that generate \$3.5 billion in revenues. We support UN-Habitat with knowledge and expertise to improve the quality of life in rapidly growing cities around the world.

[www.arcadis.com](http://www.arcadis.com)

## Contributors



### Roy Cooper

Senior Vice President,  
Leader of Technical Advisory Group,  
North America

[roy.cooper@arcadis.com](mailto:roy.cooper@arcadis.com)



### Victoria Pancoast

Associate Vice President,  
Director of Client Relations,  
North America

[victoria.pancoast@arcadis.com](mailto:victoria.pancoast@arcadis.com)



### Joe Seibold

Executive Vice President,  
Director of Special Projects,  
North America

[joe.seibold@arcadis.com](mailto:joe.seibold@arcadis.com)



### Chris Carson

Vice President,  
Director of Project Controls,  
North America

[chris.carson@arcadis.com](mailto:chris.carson@arcadis.com)

**Arcadis.** Improving quality of life.

Connect with us



@ArcadisGlobal



Arcadis



@ArcadisGlobal



@ArcadisGlobal