EPiC Series in Built Environment

Volume 5, 2024, Pages 641–649

Proceedings of 60th Annual Associated Schools of Construction International Conference

Adapting to Unforeseen Challenges: Changes in Force Majeure Clauses in State DOTs over a span of Five Years

Bryce Riccitelli and Jung Hyun Lee
Roger Williams University
Bristol, Rhode Island

Force majeure clauses are contractual provisions that excuse parties from performing their obligations under certain circumstances beyond their control. The rising frequency of unforeseen events, such as pandemics, global supply chain disruptions, and natural disasters, has highlighted the importance of the force majeure clause. The overarching goal of this study is to identify the event types that can trigger force majeure clauses and changes in contract languages in state departments of transportation (DOTs) over a span of five years. This study conducts a comparative content analysis of state DOT construction contract documents, including requests for proposals and agreements. The findings indicate that many DOTs include force majeure clauses in their contract documents. The study identifies 26 event types that can trigger force majeure clauses grouped into 8 categories in the past five years. This study contributes to enhancing the state of practice on force majeure clauses in public construction contracts. Furthermore, the findings on changes in contract languages are anticipated to benefit practitioners, especially those in the transportation infrastructure industry in the U.S., by providing the significance and implications of the force majeure clauses.

Key Words: Force majeure, Unforeseen events, Construction contracts

Introduction

The construction industry faces numerous inherent uncertainties, such as market price fluctuations, competitive bidding dynamics, adverse weather patterns, on-site productivity, political complexities, contractual obligations, and market competition. Introducing force majeure clauses within construction contracts serves the purpose of alleviating liability for both parties in instances where uncontrollable circumstances impede the contractor's ability to fulfill contractual obligations (Loulakis & McLaughlin, 2016). This proactive approach aims to prevent or mitigate disputes and litigation. Similarly, the concept often overlaps with the legal term "Act of God," specifically referring to an event beyond human control and not caused by humans, including natural disasters that are extreme and sudden events caused by environmental factors.

In the construction industry, the intertwining of hardships and force majeure becomes apparent when dealing with unprecedented or uncontrollable events. It is imperative to adapt contracts to

accommodate uncontrollable periods of time to address hardships (Maskow, 1992). The pandemic is a recent hardship that is systemically changing the world and evolving construction contracts, leading to material, labor, and equipment shortages around the country. In addition, the escalating occurrence of unforeseen events, such as volatile market conditions and natural disasters, has underscored the critical importance of the force majeure clause.

The force majeure clauses vary across standard forms concerning how the concept is defined, its implications, and the exceptions granted to contract parties (Ezeldin & Helw, 2018). Parties affected by force majeure events should thoroughly review their contracts to understand the protocol in such circumstances (Ezeldin & Helw, 2018). This may involve incorporating a force majeure clause to excuse non-performance or specifying each party's responsibilities in specific circumstances (Hennings et al., 2021). It is imperative to allocate risks and safeguard involved parties from liability during unforeseen situations. Thus, understanding the specifics outlined in the contract is crucial for parties navigating force majeure events.

Literature Review

While force majeure clauses existed in construction contracts for decades, they remained relatively unexplored until the onset of the COVID-19 pandemic. A review of recent construction engineering and management literature reveals a surge in research dedicated to understanding these clauses in the wake of the pandemic.

Ezeldin and Helw (2018) proposed a comprehensive force majeure clause designed for contracts under civil or common law jurisdictions. Throughout an extensive review of literature, surveys, and contract documents, their model clauses included events categorized as force majeure, notice of force majeure, obligations to mitigate the effects of force majeure, and consequences of force majeure. El-adaway et al. (2020) focused on contract administration, developing a checklist to strengthen the process of managing extension of time claims. Their analysis of time extension clauses within prevalent national and international design-build contracts recognizes force majeure as a sub-clause often overlooked within standard design-build contracts (El-adaway et al., 2020).

Hennings et al. (2021) provided a flowchart for managing force majeure-related risks by analyzing cases and legal literature in the U.S. Their conclusion emphasized the necessity of precise language and specificity within force majeure clauses to effectively trigger these provisions when unforeseen events occur. Osman and Ataei (2021) focused on standard-form contracts employed by the Illinois Department of Transportation and the Illinois State Toll Highway Authority the Illinois government. Their examination of specifications from the Illinois Department of Transportation and the Illinois State Toll Highway Authority shed light on assigning responsibility for anticipated delays attributed to COVID-19, suggesting that the Act of God clause might encompass such events.

Herrmann (2023) reviewed primary legal resources, such as statutes, regulations, and case law, along with secondary legal resources, analyzing these primary sources. The author concluded that receiving additional compensation for unforeseen expenses heavily depends on whether the contract specifies how such unforeseen expenses are handled. Beyond pandemics, Lee et al. (2024) highlighted that unforeseen events, such as governmental policy changes, can also lead to unexpected delays. For instance, new energy-efficiency mandates and adopting sustainable materials introduce challenges for contractors requiring adaptation in practices and supply chains (Hennick, 2021).

Despite the growing body of research on force majeure clauses, a critical gap remains in understanding how construction contracts incorporate and respond to unforeseen events beyond traditional categories. Ezeldin and Helw (2018) highlighted the tendency of courts to narrowly construe force majeure clauses, limiting coverage to listed events and closely similar ones. This underscores the importance of clear, illustrative, and non-exhaustive lists in eliminating uncertainty (Polkinghorne & Rosenberg, 2015). Further research is crucial to explore how contracts currently integrate and adapt to such unforeseen events, pushing the boundaries beyond traditional force majeure categories.

Furthermore, the need for an in-depth investigation into the specific integration of force majeure events within U.S. construction contracts is particularly pressing. The evolving landscape of sustainability practices and recent unforeseen circumstances like the COVID-19 pandemic have significantly impacted construction nationwide. Understanding how these contracts adapt to unforeseen circumstances is crucial, not only for project stakeholders but also for shaping the legal and contractual frameworks that govern construction projects in the U.S. Therefore, illustrating how these contracts evolve in response to unforeseen circumstances holds significance in shaping the industry's legal practices.

Research Objectives and Methodology

The overarching goal of this study is to conduct a systematic review of public construction contracts over a span of five years and examine changes in the use of force majeure clauses across state departments of transportation (DOTs). Additionally, this study aims to identify the specific events that can trigger force majeure clauses and capture changes in contract languages over five years.

To achieve these objectives, this study utilized a comparative content analysis approach to investigate contractual languages related to force majeure clauses in design-build (DB) contract documents over a span of five years. A purposive sampling approach was employed to identify a population of state DOTs with full authorization of DB for transportation projects. This resulted in a sample of 30 state DOTs and the District of Columbia (DBIA, 2022). Publicly available contract documents, including requests for proposals (RFPs), design-build agreements (DBAs), and addendums, were collected from the identified DOTs, and the data collection period spanned five years from January 2018 to March 2023. The dataset comprises 92 RFPs and 66 DBAs from 14 states.

NVivo version 14, a computer-assisted qualitative data analysis software (CAQDAS), was utilized to ensure systematic analysis and effective data management. Two-stage coding processes were conducted, including First Cycle coding and Second Cycle coding (Miles et al., 2014). During the First Cycle of coding, the research team systematically examined the documents, focusing on the term "Force Majeure." This initial coding phase resulted in a preliminary identification of force measure events and languages across the analyzed contracts. The selection was narrowed down to 34 contracts from 6 state DOTs that included force majeure languages (See Table 1). The selected contracts were analyzed to identify trends in the inclusion and evolution of force majeure clauses. Only one state explicitly mentioned force majeure in their contract documents in 2018, and the number increased as the years went on, with Maine, South Carolina, Kentucky, Colorado, and Wisconsin joining Georgia.

Table 1

Contract documents with force majeure clauses

Year	Number of Documents	State DOTS
2018	2	GA
2019	5	GA, ME
2020	2	GA, SC
2021	5	GA, SC
2022	11	GA, SC, CO, WI
2023	9	KY, SC

The Second Cycle of coding involved the identification of the event types that can trigger force majeure clauses. The research team grouped the 26 codes into 8 categories as presented in Figure 1: (1) Explosions, (2) Government Action, (3) Infection Control, (4) Legal, (5) Act of God, (6) Owner Action, (7) Site Conditions Variations, and (8) Unease in society. This grouping facilitated the analysis of the most prevalent and significant areas that trigger force majeure clauses. Subsequently, a comparative analysis was conducted to identify patterns and trends in the languages pertaining to force majeure clauses over five years. In the coding process, qualitative coding was systematically applied to each document. Periodic intercoder reviews were undertaken to uphold the reliability of coding across the research team.

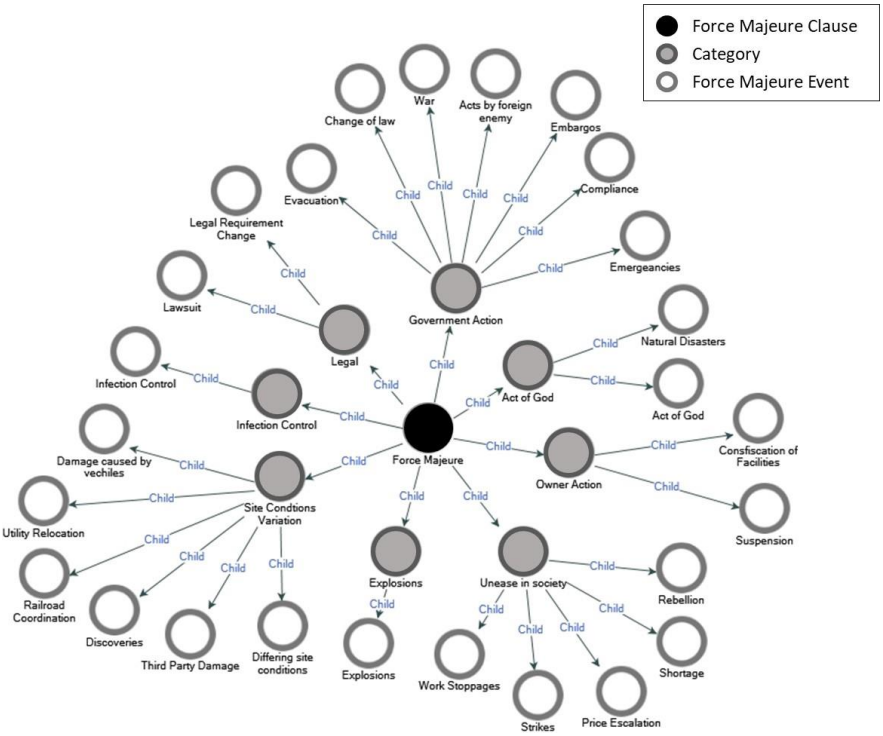

Figure 1. Mapping the events that trigger force majeure

Results and Discussion

To identify the types of events that may trigger force majeure clauses, a content analysis was conducted by analyzing 34 contract documents from 6 state DOTs spanning five years, where events are identified and then coded into categories. Figure 2 illustrates the eight categories of the force majeure event types, presenting their frequency of appearance from 2018 to 2023. The frequency of the event types under force majeure clauses identified in 2018 persist and evolve as the study progresses into the early year of 2023, except for 2020. In 2020, the high volume of project cancellations and delays led to a significant drop in new procurements, and thus, fewer contract documents were reviewed. A notable increase in the introduction of event types in contract documents is found from 2021, which shows that state DOTs were responsive to new hardships, including the pandemic, which has disrupted all aspects of life. It was found that all state DOTs addressed *infection control*, and the Georgia and South Carolina DOTs even explicitly mentioned the pandemic as a force majeure event.

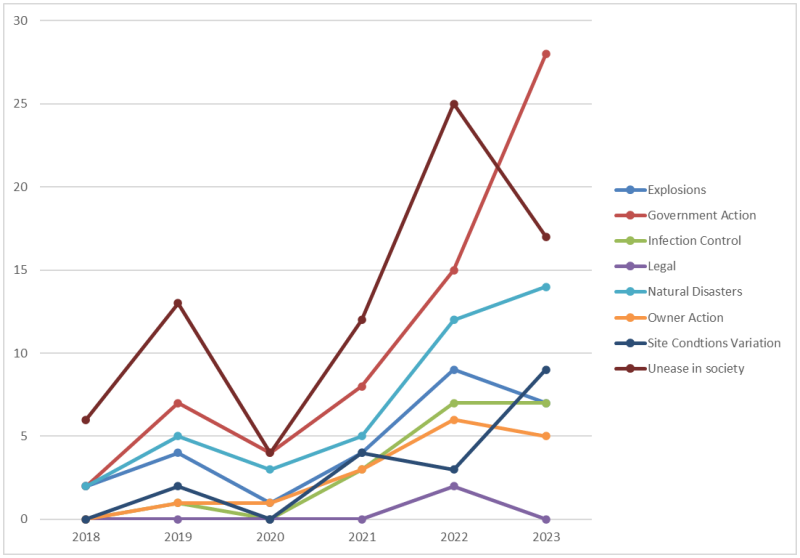

Figure 2. Force majeure events and their frequencies from 2018 to 2023

The discernible trend in the event types is related to emerging hardships that stemmed from the most recent macroeconomic issues plaguing the world. This phenomenon is more prominent with supply chain disruptions with material, labor, and equipment shortages. To address ongoing issues related to labor and material, the state DOTs elaborated on events, such as *shortages*, *price escalation*, and *work stoppages*, that have been added to the *unease in society* category since 2021. As the years progress, various event types, such as *embargoes*, *changes of law*, evacuation orders, and a declared state emergency, have been added to the *government action* category. The findings suggest that instead of narrowly focusing on the events related to one hardship, like the pandemic, the state DOTs performed comprehensive reviews and included a wide range of events as responses to the evolving market conditions.

Force majeure events encompass unforeseeable circumstances, such as natural disasters like earthquakes or floods, government actions like regulatory changes or expropriation, and events like

war, terrorism, or pandemics (El-adaway et al., 2020). These events may excuse a party from fulfilling contractual obligations. For instance, if a government imposes trade embargoes or enacts new laws, it could qualify as a force majeure event, relieving a party from performance. Similarly, the doctrine of impossibility comes into play when these events render performance objectively impossible or commercially impracticable (Hennings et al., 2021; Herrmann, 2023). For example, a change in the law that prohibits contractual compliance may trigger both force majeure and the doctrine of impossibility. It is crucial for parties to assess the language of their contracts and seek legal advice to understand how force majeure and the doctrine of impossibility apply to specific situations, including events like labor strikes, embargoes, and changes in law. This can help show how the state DOTs are evolving the contract to encompass new hardships happening in the market.

Narrowing down to the specific event types under each category, Table 2 describes force majeure events that appeared in the state contract DOTs over five years. Certain event types have disappeared over time, primarily due to the absence of current documents. For example, in 2019, the Maine DOT introduced events such as *acts by a foreign enemy*, *war*, *natural disasters*, *suspension*, *third-party damages*, and *strikes*. However, Maine DOT has not procured new DB projects since 2019 causing *acts by foreign enemy* to naturally faded from subsequent documents as it only shows up in their documents. The rest of the event types shown in the Maine DOT documents remain present in documents throughout five from other state DOTs, like natural disasters.

The research team observed that certain event types were unique to individual state DOT contract documents, indicating that each DOT has been recalibrating risk allocation strategies based on their experience and practices. This is reflected in the unique event type in their respective contract documents. For instance, the South Carolina DOT demonstrated a proactive update in delineating various event types capable of triggering force majeure events. These include *compliance* with governmental authority orders outside the South Carolina DOT's jurisdiction, *excavation*, *utility relocation*, *railroad coordination*, *damage caused by vehicles*, *shortage*, and *confiscation of facilities.*

Similarly, the Colorado DOT showcases an inclusion of legal requirement changes that significantly impact the proposed work. Specifically, this encompasses scenarios where the alteration necessitates a substantial modification in the project, mandates the contractor to obtain state or federal environmental approvals not previously mandated, or specifically targets the project or the contractor. Furthermore, the Kentucky DOT adopts a comprehensive stance by incorporating *work stoppages* into its force majeure event triggers. It elaborates on this by encompassing scenarios involving national or statewide work stoppages and work slowdowns, capturing broader disruptions that might affect project timelines or operations. These nuanced variations among state DOTs underscore a proactive approach in adapting force majeure clauses to diverse and specific circumstances, reflecting the evolving landscape of risk management strategies tailored to the particular experiences and regulatory frameworks of each state.

Table 2

Force majeure events per state DOT

Category	Force Majeure Event	2018	2019	2020	2021	2022	2023
Explosions	Explosions	GA	GA	GA	GA, SC	GA, SC, WI	SC, KY
Government Action	Acts by foreign enemy		ME				
	Change of law			SC	SC	GA, SC	SC
	Compliance			SC		SC	SC
	Embargos		GA		SC	SC	SC, KY
	Emergencies				SC	SC, WI	SC, KY
	War	GA	GA, ME	GA, SC	GA, SC	GA, SC, WI	SC, KY
	Excavation				SC		
Infection Control	Infection Control		GA		GA, SC	GA, SC	SC
Legal	Lawsuit				SC	CO	
	Legal Requirement Change					CO	
Act of God	Act of God			SC	SC	SC	SC
	Natural Disaster	GA	GA, ME	GA, SC	GA, SC	GA, SC, CO, WI	SC, KY
Owner Action	Suspension		ME		GA	GA, CO	
	Confiscation of Facilities			SC		SC	SC
Site Condition Variation	Utility Relocation				SC		
	Railroad Coordination				SC		
	Third Party Damage		ME		SC		
	Damage caused by vehicles				SC	SC	SC
	Discoveries				SC	CO	
	Differing Site Conditions					SC	
Unease in society	Rebellion	GA	GA	GA, SC	GA	GA, SC, CO, WI	SC, KY
	Shortage				SC	SC	SC
	Strikes	GA	GA, ME	GA	GA	GA, SC, WI	SC, KY
	Price Escalation					SC	
	Work Stoppages						KY

Conclusion

In recent history, many factors have been affecting the construction industry, including COVID-19, natural disasters, disruptions in the supply chain leading to material, equipment, and labor shortages, as well as new governmental actions. With limited investigations into governmental contracts to show the changes in force majeure that reflect the state of society, this study shows the results that come from changes in government contracts over a span of five years. This study tackles the problem by performing qualitative data analysis on the design-build contract documents by State DOTs with full design-build authorizations over five years.

The findings of this study indicate that recent hardships have changed government contracts and events considered force majeure delays. After the five-year span, certain force majeure events become more or less relevant as time changes and the contract evolves to incorporate new factors that affect the construction industry. COVID-19 has been added as a force majeure with ties to other events like epidemics, pandemics, and quarantine restrictions. Several factors related to the current market conditions have been considered force majeure events.

Even though the specific rules might vary from state to state, courts generally tend to find that a force majeure clause applies only if the event that happened is mentioned specifically in the clause or is very similar to something that is mentioned. This study highlights a shift in the relevance of certain events noted since 2018, revealing their diminished and increased significance as emerging market conditions reshape the triggers for force majeure clauses up until 2023. The additions in event types underscore a systematic evaluation of current practices and pressing challenges, including natural disasters and societal unease. Notably, updates to the list of force majeure delay events are evident through the diminishing presence of several occurrences. This indicates a proactive reassessment by state DOTs in their risk allocation strategies and force majeure delay clauses. By identifying and delineating these events within their contract documents, owners can proactively mitigate the risks associated with unforeseen circumstances, thereby reducing the likelihood of disputes or delays. Furthermore, understanding force majeure events can empower construction professionals, scholars, and students to build more resilient schedules and risk management strategies.

In navigating construction contracts in the transportation infrastructure market, there are three key takeaways to empower practitioners. Firstly, various new events, such as pandemics, market conditions, and societal unease, have been added to force majeure clauses, reflecting a dynamic response to emerging challenges in the construction industry. Secondly, regularly updating force majeure clauses to reflect emerging events, such as the impact of ongoing issues, through a proactive and periodic contract review will enhance risk allocation strategies. Lastly, industry practitioners involved in contract management benefit from continual training to stay updated on changes in regulations, industry standards, and force majeure considerations.

References

Design-Build Institute of America (DBIA). (2022). DBIA State Maps. *Design-Build Institute of America*. Accessed November 12, 2023. https://dbia.org/advocacy/state/

El-adaway, I. H., Vance, R. A., & Abotaleb, I. S. (2020). Understanding extension of time under different standard design-build forms of contract. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*. 12(1): 04519031.

Ezeldin, A.S. & Helw, A.A. (2018). Proposed force majeure clause for construction contracts under civil and common laws. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction.* 10(3): 04518005.

Hennick, C. (2021). Regulatory wins for green building in three U.S. states. *US Green Building Council*. Accessed November 13, 2023. https://www.usgbc.org/articles/regulatory-wins-green-building-three-us-states

Hennings, W.C., Abdellatif, S.A., & Hanna, A.S. (2021). Proper Risk Allocation: Force Majeure Clause. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*. 14(1): 04521048.

Herrmann, M. (2023). A Path to Establishing Delay and Disruption Claims for Contracts Entered into Prior to the Start of the COVID-19 Pandemic. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 15(2), 04523008.

Lee, J.H., Liang, Y., Tabatabaee, S. M. E., & Riccitelli, B. (2024). "Evolvement of Excusable Delay Clauses in Government Contracts Since the COVID-19 Pandemic." *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*. 16(1), 04523053.

Loulakis, M. C. & McLaughlin, L. P. (2010). Contractors unable to prove force majeure event occurred. *Civil Engineering Magazine Archive* 80.5(2010): 92-92.

Maskow, D. 1992. Hardship and force majeure. *The American Journal of Comparative Law*, 40(3), 657-669.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative Data Analysis: A Methods Sourcebook (3rd ed.). SAGE Publications.

Osman, I. & H. Ataei. (2021). Studying construction claims due to COVID-19 for road and highway projects. Journal of Legal Affairs and Dispute Resolution in Engineering and Construction. 14 (1): 06521004.

Polkinghorne, M. & Rosenberg, C. (2015). Expecting the unexpected: The force majeure clause. Bus. L. Int'l, 16:49.