Understanding Project Cancellation Risks in U.S. P3 Surface Transportation Infrastructure

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Abstract

Public private partnership (P3) projects can face many internal and external risks affecting their development and implementation. As a result, this research explores the understudied risk factors underlying the U.S.’ cancelled, deferred, and terminated P3 projects. Of the 68 projects identified as the U.S. surface transportation P3 population, 31 experienced cancellation, deferment or early contract termination. The research then applied literature review and multi-case study methods to the 31 troubled cases to identify common risk factors. Data collection focused primarily on the identification of political (public and political voice, bureaucratic complexity) and economic risk factors. The most frequently identified factors across the 31 cancelled, deferred, or terminated cases include political opposition, local opposition, and inadequate demand projections. Since the paper studies the entire U.S. surface transportation P3 project population, the results serve to inform public agencies and private sector actors of possible external friction points meriting consideration during P3 procurement planning.

Keywords: Public-Private Partnerships, Political Risk, Project Cancellation, Economic Risk, United States

1. Introduction

Aging infrastructure systems present challenges for the U.S. public sector that, when combined with binding debt ceilings, have increased governments’ interest in attracting private sector resources via public-private partnerships (P3s) when financing and delivering surface transportation and transit projects (Department of the Treasury 2014; The White House 2018). Under traditional public procurement, the public sector maintains considerable control over all procurement and construction stages, simply hiring the private sector to build assets. P3 delivery methods, by contrast, typically feature long-term contracts

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that distribute project, construction, and financial risks between a public sector owner and a private sector concessionaire (Iossa and Martimort 2008). Such contracts enable both private-sector financing and private-sector oversight and coordination across several project stages. As a result, private-sector involvement in long-term service provision can help the public sector overcome financial barriers, accelerate project delivery, introduce innovation, and improve risk management (Bolanos et al, 2017).

Despite their advantages, P3s can also present challenges. Several political uncertainties – bureaucratic delays, elections, changes in administration, local pressure for subsidies or favorable treatment, government intervention, subjective project evaluation, limited interagency coordination, and public opposition – can influence project outcomes (Jeffrey D. Simon 1984; Bing et al. 2005; Cheung and Chan 2011; World Economic Forum 2014; Moszoro and Spiller 2012). Private companies’ concern for internal rates of return and their lenders’ sensitivity to debt service payments can make their P3 investment decisions particularly sensitive to political climate, corruption, expropriation, regulatory changes, weak institutions, and other forms of political instability (U.S. Federal Highway Administration 2012; Kwak, Chih, and Ibbs 2009; International Transportation Forum 2018). In addition, given P3s’ bundled services, risk transfer objectives, and long-term contracts, political and economic risks can intermingle to produce outsized impacts on project completion likelihoods, procurement process, transaction costs, and expected returns on private investment.

P3 infrastructure projects’ capital-intensive nature and large investment magnitudes also make them highly visible (Henisz 2002), often drawing special media and public attention, particularly during their construction stages. Such investments might also draw special scrutiny when asset specificity components encourage opportunistic behavior (Williamson 2010; Moszoro and Spiller 2012). Moreover, projects involving tolling, taxes, and public debt tend to stir public passions (Slone 2015); P3s are no exception. Indeed, adding private sector financial components to projects already considering tolling, increased taxes, and/or public-sector debt often increases public controversy to the point where some even compare such projects to “piñatas” (Public Works Financing 2016). Such public opposition appears particularly challenging in nations with strong political institutions, especially when the private sector invests in publicly owned infrastructure (Kim 2014). In the U.S., public opposition to privately financed infrastructure projects has generated considerable industry concern and may have affected state gubernatorial elections, particularly when the projects involved tolls (Morrill 2016a, 2016b). Consulting firms have developed investment tools to help investors avoid risky jurisdictions where such projects
appear less likely to succeed (Aon Risk Solutions 2018) and practitioners increasingly hypothesize political risk specifically has hampered P3 growth in the U.S. (Moody’s Investors Service 2016; National Council for Public-Private Partnerships 2015).

As such, poorly managed political and economic risks have potential to drive P3 projects into contract renegotiations, bankruptcies, early contract terminations, deferrals, and in the most extreme cases outright cancellations. In response, the following paper investigates three research questions exploring potential relationships between political risks, economic risks, and project outcomes in the increasingly strained U.S. surface transportation P3 market. The first research question asks how frequently stakeholders cancel, defer, or terminate U.S. surface transportation P3 projects. The second research question explores the drivers behind these cancellations, deferrals, and terminations, focusing on political (public and political voice, bureaucratic complexity) and economic risk factors. The third research question considers what lessons public and private sector stakeholders can draw from cancelled, deferred, and terminated projects within the U.S. surface transportation P3 market. In answer to these questions, the findings first demonstrate that deferrals, cancellations, and early terminations make up 46% of all U.S. surface transportation P3 projects. The most frequently identified risk factors across the 31 cancelled, deferred, or terminated cases included political opposition, local opposition, and inadequate demand projections. Such findings raise risk awareness but also suggest valuable risk mitigation strategies like stronger due diligence, community engagement, community grants, and Small, Women-owned, and Minority-owned Business and Disadvantaged Business Enterprise (SWaM/DBE) policies.

The remainder of the article proceeds as follows: the first section presents relevant background and political risk theory; the next section details the dataset development process and analytical methodology; the project analyses are presented next, followed by the empirical findings and their implications for P3 project completion.

2. Political and Economic Risks in the U.S. P3 Context

In the P3 context, the literature highlights two primary risk categories for study: political risks and economic risks. Talus (2009), for example, identified both a) economic risks, tied to future demand and availability risk, and b) political risks resulting in changed investment climates as common drivers behind early energy infrastructure concession or license terminations in Europe. Zhang and Xiong (2015)
similarly, identify unexpected events as drivers behind early contract terminations among a sample of global P3s. Song, Hu, Feng (2017), studying early terminations in China, further identify inaccurate demand forecasts, changes in market demand, public opposition, and regulatory changes as relevant factors. In general, risks typically derive from the imposition of constraints upon business arrangements by government and/or community actions (Kobrin 1979). U.S. practitioners, in turn, have argued that factors like contract ambiguity, expectation management failures, principal-agent problems, and administrative changes have led to U.S. project delays and possibly project cancellations (Guthkelch 2016). A regulator might deny environmental permits, for example, or a new administration might not advance a predecessor’s project to financial close. Community action through government mechanisms like public hearings and litigation might similarly affect P3 infrastructure projects. While such activities rightfully exist to support community welfare and engagement, they may also impede private investment and/or affect project viability. This is particularly true in areas with high ethnic, social, and/or political fractionalization (Annett 2001).

Given this context, the authors structured their analysis around four project cancellation drivers – bureaucratic complexity, public voice, political voice, and exogenous economic shocks – juxtaposing projects’ internal, bureaucratic conflicts with external conflicts deriving from economic conditions, politicians, and the public. These drivers appear similar to the risks described by the World Economic Forum (World Economic Forum 2014), although the present analysis also considers risks beyond the planning and design phases.

2.1. Bureaucratic Complexity

Bureaucratic complexity, including complex regulatory structures and/or interagency approval processes, can increase project cancellation risks in two ways. First, *intergovernmental conflicts* can develop as the public sector coordinates its actions. Such conflicts are particularly prevalent in the U.S. where federalism and institutional checks and balances intentionally include numerous public agencies with overlapping mandates at the local, state and federal levels (Kingdon 1999). Procurement processes often involve state and/or local transportation agencies as well as state and/or federal environmental agencies, permitting offices, inspectors, etc. Public-sector project funding, similarly, can come from local, state, and/or federal sources. Such complexity across multiple public-sector agencies with very different mandates and regulatory layers can increase the probability of conflict, particularly when complex P3
comprehensive agreements are involved. Bureaucratic complexity can also produce power struggles as agencies seek autonomy, struggle with multiple objectives, and resist trade-offs needed to achieve Pareto optimal solutions or shift to second-best solutions (Wilson 1989; Brill Jr 1979). Given these circumstances, coordination problems and interagency conflicts can develop into long-term distrust that undermines future cooperation and project development.

Second, political risk may arise if inadequate contract terms affect partnership relationships and goal achievement. Inadequate terms can be especially problematic for P3 projects when the sponsoring public agency lacks the skills or knowledge necessary to fully develop a comprehensive agreement. Such P3 comprehensive agreements, typically covering thousands of pages filled with engineering, financial, and legal terminology, present a particular problem for agencies implementing P3s for the first time, especially since the U.S. regulatory landscape lacks standardization and institutional learning pathways. Inadequate contract terms can also manifest due to information asymmetry or opportunistic behavior on the part of either the public or the private sector.

2.2. Public Voice

Project cancellation risk can also derive from political actions undertaken by citizens and politicians. Albert Hirschman popularized the term “voice” for the idea that highly-involved individuals interested in organizational changes communicate their complaints and suggestions rather than remaining passive and/or exiting (Hirschman 2004). Public voice, encompasses citizens’ ability to express and exercise their interests and concerns through participation in protests, government elections, public hearings, legal challenges, local or national organizations, and/or grassroots movements (Paul 1992, 1054). When examining political risk in the U.S. P3 context, two public voice components merit scrutiny: local opposition and ideological opposition. Local opposition typically pushes back against expected negative quality of life impacts for those living in affected communities. U.S. grassroots movements developed from such public opposition can develop into powerful forces, particularly when Not In My Backyard (NIMBY) reactions come into play. Ideological opposition, in contrast, objects to broader friction points, e.g. an anti-corporation movement, or simply to an agency or government’s policies, even when the project does not impact the local community directly. For example, support for environmental protection or objections to urban sprawl might lead some stakeholders may oppose greenfield transportation projects as a general principle. Others might prioritize national security over
economic efficiency and effectiveness, objecting to involvement from foreign corporations as a result. Such ideological opposition, particularly regarding public health and environmental concerns, have evolved into political movements in the past (Freudenberg and Steinsapir 1991).

2.3. Political Voice

Political voice represents a separate risk category and can drive P3 risks through two pathways. First, a shift in a political body’s makeup can transform the political environment and increase uncertainty for the private sector. Elections and political transitions, for example, can alter legislative bodies and executive leadership at the national, state, and local levels, potentially producing new laws (legislative change), priorities, budgets, procurement processes, and political climates. Such changes particularly affect P3s given their reliance on enabling legislation and long-term political support. States require special legislation to enable P3 contracts or to grant P3s public funding. Political transitions and shifts in legislators’ ideological wills can result in the repeal or expiration of such legislation, as occurred in California in 2017. In addition, many states require votes or formal approval from lawmakers before entering into P3 contracts, making P3 approaches highly susceptible to shifting legislative ideologies. Second, political opposition can develop when competing stakeholders, limited political consensuses, and/or changing policy priorities open windows of opportunity for politicians to preserve their power, position, and/or public approval. For example, politicians can generate political support, especially in communities facing the project-related construction and disruption, by attacking projects and generating fear. This is particularly relevant for P3 projects since the complex contracts of P3s can open incumbents to challenges, potentially offering a greater opportunity for attack and weakening re-election chances (Moszoro and Spiller 2012). As a result, “many [P3] projects have been cancelled simply due to political reasons, unrelated to their merits as infrastructure projects” (Bipartisan Policy Center 2016).

2.4. Economic Complications

In addition to political risks drivers discussed above, project delays and cancellations can derive from financial and economic drivers ranging from sudden and unexpected financial fluctuations (e.g., steel prices, interest rates) to economic downturns and credit scares. While these factors affect all government projects, P3s are especially susceptible given their dependence on private sector stakeholders. The Great Recession, for example, likely affected many U.S. P3s by limited available private sector
funds, depressing demand, and reducing internal rates of return (Gifford et al, mimeo). Economically relevant factors identified by Song et al (2017) include inaccurate demand forecasts, competing projects, insufficient supportive institutional infrastructure, government payment defaults, insufficient financing capacity, and changes in market demand.

3. Data and Methodology

Following Song et al (2017), the authors employed a four-step process methodology: case selection, and data collection, followed by a results and discussion section. To begin case selection, the research team compiled a database containing the whole U.S. surface transportation P3 project population across all P3 project development stages. The team limited the database to surface transportation (roads, motorways, bridges, tunnels), excluding transit, airport, social infrastructure, and other transportation related projects like street lighting, to preserve comparability between projects. In addition, the database focused only on projects involving long-term private sector engagement, typically contracts including infrastructure operations and maintenance, since these offer the best opportunities for analyzing cancellations executed during operational phases. Consequently, the final database includes projects with the following P3 contract types: design-build-finance-operate-maintain (DBFOM), design-build-finance-maintain (DBFM), design-build-operate-maintain (DBOM), build-own-operate (BOO), and long-term lease.

The research team also chose to limit the database to a) publicly solicited projects having issued Request for Qualifications (RFQ) and b) unsolicited projects – where private companies identify needs and bring proposals to the public sector – where a Request for Proposals (RFP) issuance occurred. For solicited projects, an RFQ provides project-related information to select private firms prior to an RFP and bidder selection. As a result, the presence of an RFQ implies that the public sector has devoted important resources to the P3 approach and is committed to pursuing a P3. Projects advertised as potential P3s but lacking RFQs were not included in the database since they do not involve private sector engagement and lack consistent, comparable procurement processes between public agencies. The database only included unsolicited proposals when the public agency chose to advance the project through a P3 procurement (RFP) or direct negotiation process.

Based on these criteria, the authors identified 68 total projects across 22 states for inclusion in the dataset. These projects included 43 DBFOM contracts (63%), 3 DBFM contracts (4%), 1 BOT contract
(2%), 7 BOO contracts (10%), 9 long term leases (13%), 1 long term lease under private development (2%), and 4 undetermined contracts (6%). Unsolicited proposals represented 20 of projects (30%), compared to 43 solicited projects (63%), and 5 undetermined projects (7%). Texas (12), Virginia (10), Florida (8), and California (6) produced more than half of the database P3 projects. The research team then identified whether each project was cancelled (the procurement or contract faced early termination) or deferred (the procurement was postponed indefinitely), at what stage, and why. The research team classified P3 projects as cancelled if they either reverted to traditional procurement approaches, meaning the P3 approach was no longer used, or were cancelled outright prior to financial close. P3 cancellations occurring after financial close were classified as early contract terminations. Projects encountering bankruptcies or contract renegotiations after financial close were not considered to be cancellations as they occurred after the project had been delivered. Since the research studied the entire resulting U.S. surface transportation project population, there was no need to define additional case selection criteria.

To identify political risk and provide consistency across information gathering, the authors then employed a coding approach to aggregate project activities and/or events into seven binary risk indicators as identified through literature review: local opposition, ideological opposition, intergovernmental conflict, inadequate contract terms, legislative change, political transition, and political opposition. For example, multiple news reports indicated that political opposition contributed to the Mid-State Tollway’s (Alameda and Contra Costa counties) cancellation. To ensure reliability, at least two of the authors reviewed and classified the events within the database. In the event of a disagreement, a third author was brought in to review the materials. If the factor in question could not be determined clearly the factor was not marked as a risk to maintain a conservative categorization. The authors employed a similar approach for identifying economic risks, aggregating data into four additional binary risk factors: inaccurate demand forecast, change in market demand, the presence of competitive projects, and insufficient financing capacity or other financing restraints. The authors also collected detailed project descriptions, along with information about each stage in project development process.

P3 practitioners and public owners employ multiple databases to evaluate P3 projects, but these sources do not emphasize the political and economic risks influencing P3 infrastructure delivery. As a result, data collection efforts depended on reviewing project documents, websites, and news outlets. Primary data sources included the Federal Highway Administration (FHWA) Office of Innovative Program Delivery P3 Project Profile (FHWA 2016), the Public Works Financing Major Projects Database
(Public Works Financing Newsletter 2014), and over a decade of Annual Privatization Reports on Surface Transportation by the Reason Foundation (Reason Foundation 2018). Specialized news reports from sources like Public Works Financing, Toll Road News, and regional news outlets were also employed to collect data on cancelled projects. Project and procurement related keywords, such as the project name, “Request for Proposals,” or “cancellation” were employed to locate specific information. Note that data availability varied by project vintage since institutional learning, best practices, and sociopolitical pressures have increased demands for project transparency. In general, P3 project data availability appeared to improve with projects reaching financial close during or after 2009. While institutional learning may have contributed to this change, the timing appears to relate to the financial constraints and political concerns raised by the Great Recession.

4. Results

4.1. Cancellation, Deferment & Termination Rates

At the time of this writing, 29 of the 68 projects identified in the U.S. surface transportation P3 database are currently operating. One, North Dakota’s Fargo Bridge, returned to full public-sector control following its P3 contract’s completion. One project remains under procurement while 10 projects remain under construction. To answer the paper’s first research question, 25 of the database projects were canceled during procurement, 2 were deferred, and 4 resulted in early P3 contract terminations† when public owners reestablished control midway through private concessionaire operations. This amounts to a 46% overall cancellation, termination, or deferral rate for U.S. surface transportation P3 projects.

Analyzing the cancellations, deferrals, and terminations by P3 contract type, two DBFOM projects were deferred, four terminated, and 17 cancelled out of 43 total projects. Long-term lease contracts experienced a 33.3% cancellation rate (3 out of 9 projects), the lone Texas SH 121 case resulted in a 100% cancellation rate for BOT contracts, and DBFM contracts experienced a 33% cancellation rate (1 out of 3). Most project cancellations and deferments occurred during the initial procurement and commercial close phases, making these phases – including RFQ issuance, qualifications submissions, team short listing, RFP issuance, and preferred bidder selection – the riskiest for all projects. Most

† Note that since Indiana’s I-69 project had completed procurement when it was terminated during its construction phase, the research team classified it as an early termination rather than a cancellation.
projects (16) were cancelled following the selection of preferred bidders or during commercial close, likely during contract negotiations.

4.2. Cancellation, Deferment & Termination Drivers

Turning to the second research question, the database findings suggest that all four potential drivers – bureaucratic complexity, public voice, political voice, and economic complications – contributed to U.S. surface transportation P3 cancellations, deferrals, and terminations. Of the 31 database projects that experienced cancellation, deferment, or early termination, political risk factors likely contributed to 20 of them; economic complications risks also contributed to 20 projects. Breaking the findings down further, 10 projects demonstrated political risks without economic complications, 10 projects demonstrated economic complications without political risks, 10 projects demonstrated both political and economic challenges, and 1 project lacked sufficient information to evaluate the presence of multiple political risks but was affected by a legislative change. The findings demonstrate no clear geographical or experiential patterns; a state’s early projects were no more likely to fail than later projects.

4.2.1. Bureaucratic Complexity

Seven projects demonstrated bureaucratic complexity expressed through interagency conflict and/or inadequate contract terms. Trends identified from the cases include: problems deriving from contracts and legal discourse, coordination problems and interagency conflict, and interactions with public and political opposition.

Problems deriving from contracts and/or legal issues manifested themselves in several cases. For instance, the Iliana Expressway case was cancelled in Illinois and deferred in Indiana when the courts found the project lacked a proper “no build” scenario for adequate project assessment in a lawsuit brought by an environmental advocacy group (see Section 4.2.3 for further discussion). In California’s State Route 57 case, the project was canceled when the toll road franchisee did not fulfill its contract within ten years of state legislative approval. The project represented one of California’s four original P3 experiments as implemented through Assembly Bill No. 68 in 1989. The American Transportation Development (ATD) held a toll road franchise which expired in Jan 2001. The project was eventually
cancelled because ATD did not begin the construction of the project within the first ten years after it obtained approval of the state legislature.

Interagency coordination problems, conflicts, and their resulting permitting delays also contributed to project cancellations. For example, conflict arose between the Pennsylvania governor’s office and the Turnpike Authority during the state’s attempt to use a long-term lease P3 approach for its Pennsylvania Turnpike. The lease plan had been floated directly after PA Act 44 expanded the Turnpike Authority’s mandate to include providing annual funding contributions and hence, the Turnpike Authority pushed back, advocating instead for public control and revenue generation through state tolling. The pressure ultimately contributed to the private consortium withdrawing its bid (Toll Roads News 2008) and the Turnpike Authority now holds the lease. In contrast, Virginia’s I-81 case, uniquely, demonstrated coordination problems on the private partners’ part. The I-81 corridor improvements project began in 2002 with an unsolicited proposal submitted by STAR Solutions, followed by a VDOT proposal solicitation that selecting STAR Solutions as the preferred bidder. The project then was cancelled four years into negotiations, at the consortium’s request, following changes in corporate ownership (Roads & Bridges 2008).

Interactions between opposition factors and bureaucratic complexity resulted in further pressure on, California’s SR – 91 project. In that case, the P3 contract included a non-compete clause that precluded public agencies from building competing infrastructure. As regional population growth drove increased congestion on non-tolled roadways, the state government attempted to bypass the non-compete clause and acquire the facility legislatively through condemnation (Federal Highway Administration 2015). The Orange County Transportation Authority eventually bought the project to overcome the non-compete clause, ending the P3 agreement (Gifford, Bolaños, and Daito 2014).

Ultimately, while contract, legal, and interagency problems can doom a project, these bureaucratic factors were not as common in the cancelled cases as other risk factors. In addition, bureaucratic issues appear less likely to cause project cancellations without local opposition, political opposition, and/or economic complications.
4.2.2. *Public Voice*

Turning next to public voice, six projects demonstrated local opposition alone, three demonstrated ideological opposition paired with local opposition, and one demonstrated ideological opposition alone. Typically manifested through environmental, noise, eminent domain, and trust concerns, this opposition strongly influenced these project outcomes, particularly during the procurement stage.

Environmental opposition, both local and ideological, appeared in several database cases. For example, local environmental opposition prevented development along the Northwest Hillsborough Expressway (East-West Road) route beginning decades before a P3 was ever considered. When increased congestion and traffic later led decision makers to reopen the project in the mid-2000s, the proposed routing through sensitive wetlands again caused public concerns and activism. North Carolina’s Mid-Currituck Bridge also faced legislative issues and ideological opposition due to environmental degradation. No longer considered for P3 procurement, this public-sector project continues to face local opposition on environmental degradation grounds. Similarly, locally- and ideologically-driven environmental lawsuits increased costs for California’s South Bay Expressway, ultimately contributing to the project’s ultimate bankruptcy and contract termination.

Environmental opposition also appeared alongside fears of noise pollution and eminent domain seizures. Tampa’s State-Road-54/56, FL54 Xpressway, for example, foundered under objections from established organizations like the Urban Land Institute and the Sierra Club, the increased construction costs required for wetland-protecting elevated lanes, and fierce, long-running local opposition stemming from environmental, noise pollution, and eminent domain fears. Texas’s cancelled TTC -35 and TTC 69 projects also faced a citizen uprisings due to concerns over eminent domain, private property rights, and environmental hazards.

Fragile public trust also contributed to local opposition in several cases. Specifically, the two California P3 projects now operating under public sector control – South Bay Expressway and SR 91 Express Lanes – and the cancelled Mid-State Tollway faced local opposition once expected revenues dropped, undermining trust in private sector involvement (Weikel 2002). The SR 91 project’s non-
compete clause in particular caught the public’s attention, driving opposition to the private sector’s involvement.

Projects involving tolling tend to stir public passions (Slone 2015), but without tolling process details, it remains difficult to determine whether tolling, or just the threat of tolling, drove public opposition in the database cases. In total, 14 of the 25 cancelled database projects proposed tolling or managed lanes in some capacity. Six of these projects progressed far enough into the procurement process to offer details regarding the proposed toll or managed lane project types. Cancelled managed lane projects included Nevada’s Project Neon, Georgia’s I-75/575, and Virginia’s I-81. The first two projects showed little evidence of local or ideological opposition influencing their cancellations. Virginia’s I-81, however, saw opposition from the trucking industry and local opposition grew over the project’s life, particularly as some believed the project was a “done deal” and that VDOT was not fully considerate of the public interest (Kozel 2008). Similarly, three projects offered information on proposed tolling: Texas’ SH 550, Florida’s Alligator Alley (I-75), and Pennsylvania’s Turnpike. All three projects proposed fixed rate tolls. Alligator Alley faced political opposition, as did the Turnpike, not did not face local or ideological opposition. In fact, the Turnpike project actually showed public support. In the Texas SH 550 case, the state chose public delivery after preferred bidder selection and did not face intense public opposition. As a result, while local and ideological opposition to environmental, noise pollution, and eminent domain seizures appear relevant for P3 cancellations, tolling opposition appears unlikely to drive U.S. surface transportation P3 project cancellations in isolation.

4.2.3. Political Voice

Political voice factors represented similarly common drivers behind the project cancellations and terminations within the U.S. surface transportation P3 database. Nine projects demonstrated political opposition alone, four projects demonstrated legislative change alone, one demonstrated political opposition with legislative change, and one experienced a political transition paired with political opposition.

Of the fourteen cases demonstrating political voice factors, seven also demonstrated public voice factors (50%). This suggests that political actors often considered public sentiments when cancelling or terminating database projects. Although California’s South Bay project broke down over federal
regulatory opposition, public outcry over the SR-91 case’s non-compete clause likely contributed to the political actions behind that project’s public-sector buyout. The public’s growing distrust likely influenced the political actions behind the Mid-State Tollway project termination as well (Weikel 2002). Similar processes played out in Texas. Governor Perry and his supporters pushed the Trans-Texas Corridor I-35 and TTC 69 projects, but citizen uprisings produced bipartisan political opposition within the state legislature that contributed to the projects’ 2009 cancellations. Political support for Florida’s FL-54 Xpressway also declined dramatically in response to publically-driven environmental mitigation costs.

Other politically driven cases, like Georgia’s I-75/I-757 North project cancellation, lacked clear public opposition factors. In that case, Governor Deal cancelled the procurement soon after taking office in 2011, citing "loss of sovereignty" (Poole 2013). The state then issued new enabling P3 legislation in 2015, indicating an important political change. This case represented the only database project where a political transition signaled policy changes. As a result, the database cases offer little evidence that changes in political power necessarily signal P3 cancellations. The U.S.’ mature political system, manifested through bureaucratic complexity and legislative pressures, may limit incoming administrations’ ability to modify previous decisions. Alternatively, political transitions may have greater impacts on project delays rather than on cancellations, deferments, or terminations.

Similarly independent political opposition, without political transitions, was perhaps best demonstrated in Florida. There, Florida’s Alligator Alley (I-75) faced strong political opposition from State Senator Aronberg who introduced two bills imposing a two-year moratorium on leases and requiring legislative approval any lease agreements. Neither bill was enacted but they precipitated the project’s ultimate cancellation by generating delays and uncertainties that raised costs and stirred up public opposition during the global financial crisis. As a result, this case suggests that political opponents can influence project outcomes.

Other politically-driven legislative and policy changes influenced additional cases. For instance, since the Pennsylvania Turnpike’s lease proposal lacked sufficient structures and incentives to encourage private-sector participation, a disappointing winning bid produced political opposition that led to the P3’s cancellation. The Alaska State Legislature similarly abandoned the P3 approach for its Knik Arm Bridge in 2014 after toll revenue appeared insufficient for project development. Other cases reverted to public
procurement following legislative or policy changes (Texas’ SH 121, SH 161, and SH 550 Cameron County Connectors), or a legislature’s unwillingness to provide necessary approvals (North Carolina’s Mid Currituck Bridge).

4.2.3. Economic Complications

Economic complications appeared in twenty of the cancelled, terminated, and deferred projects. Common factors included poor economic viability, demand shortfalls, fiscal constraints, interest rate fluctuations, private-sector uncertainties, interactions with other public and political opposition factors, and poor business practices and competitiveness.

Several database projects presented insufficient economic viability to reach completion. Alaska, for example, turned to a P3 approach after it could not find financing for its Knik Arm Bridge under traditional procurement. Projected toll revenues then failed to attract private sector interest. The project also faced high environmental risks, but the project’s poor economic outlook presented the greater obstacle. Oregon also attempted three P3s – the Sunrise project, the Newberg-Dundee Transportation improvement project, and the South I-205 Corridor Project – but cancelled them all in 2007 after it deemed toll projections and other financial indicators insufficient for financing. Virginia’s Route 460 project also proved too costly to be economically viable. Other projects appeared viable but fell short of expectations. For example, demand problems drove the Texas’ Camino Colombia case’s 2004 foreclosure and ultimate sale to the Texas Department of Transportation (Guasch 2004). Weak revenues also contributed to California’s Mid-State Tollway cancellations (Weikel 2002).

Fiscal constraints also appeared strongly within several of the database’s cancelled projects. Mississippi’s Jackson Airport Parkway Connector case, for example, was deferred after bidders could not obtain investment grade ratings for financing during the global financial crisis and consequently could not submit proposals. Missouri’s Safe Sound Bridge, similarly struggled to find financing during the 2008 economic downturn. Financial conditions, including higher interest rates, rising finance costs and increasing operation and maintenance expenses, similarly undermined Nevada’s Project NEON, US 95/I-15 in August 2014 (Shine 2014). In contrast, a $500 million dollar annual funding gap developed in the Pennsylvania Turnpike case after tolling had been denied. Finally, California’s Accelerated Regional
Transportation Improvements (ARTI) case, including six bundled P3 highway projects, was cancelled after when the state’s Section 143 enabling legislation created financing challenges.

Florida’s Alligator Alley (I-75), too, encountered financial uncertainty during the financial crisis, with potential bidders reportedly requesting a delay in the project’s procurement. Private-sector caution following the Chicago Midway’s collapse probably also contributed to the challenging economic environment (Toll Roads News 2008). These factors compounded the project’s political challenges, ultimately leading to cancellation. Texas’s TTC-35, TTC 69, SH 161 and SH 550 project cancellations also occurred between March 2008 and January 2011 suggesting an interaction between the Great Recession’s economic risks and the projects’ tremendous public and political challenges. Opposition forces also interacted with economic conditions to drive project cancellations in California’s South Bay Expressway case (Gifford, Bolaños, and Kweun 2016) and in Florida’s First Coast Outer Beltway and State-Road-54/56, FL54 Xpressway cases.

Less than optimal business practices and competitiveness factors played roles as well, but appeared in the database less frequently than fiscal challenges. For example, Indiana’s I-69 contract termination occurred after the special purpose vehicle’s parent company, Isolux, faced embezzlement charges in Spain three weeks following financial close (Alesia and Lange 2017). This potentially affected the private partner’s ability, financially and managerially, to deliver the road on time. Changes in corporate ownership likely led to Virginia’s I-81 project cancellation, at the private sector’s request, following long contract negotiations (Roads & Bridges 2008). In Virginia’s Dulles Toll Road case, by contrast, the public-sector Metropolitan Washington Airports Authority won the competitive bidding process rather than one of the private sector bidders. This effectively cancelled the P3, turning it into a “public-public” partnership.
Table 1: Factors Present at Deferment, Early Termination or Cancellation of U.S. Surface P3 Projects; Sorted by Number of Risks

<table>
<thead>
<tr>
<th>State</th>
<th>Project Name</th>
<th>Contract Type</th>
<th>Year</th>
<th>Status</th>
<th>Stage at Final Status</th>
<th>Bureaucratic Complexity</th>
<th>Public Voice</th>
<th>Political Voice</th>
<th>Economic Complications</th>
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<tbody>
<tr>
<td>FL</td>
<td>State-Road-54/56, FL54 Xpressway, Tampa</td>
<td>DBFOM</td>
<td>2014</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>N/A</td>
<td>Local Opposition; Ideological Opposition</td>
<td>Political Opposition</td>
<td>Cost escalations</td>
</tr>
<tr>
<td>CA</td>
<td>SR 125 South Bay Expressway (SBX)</td>
<td>DBFOM</td>
<td>2011</td>
<td>Early Termination</td>
<td>Open to Traffic</td>
<td>N/A</td>
<td>Local Opposition; Ideological Opposition</td>
<td>Political Opposition (Federal)</td>
<td>Cost escalations</td>
</tr>
<tr>
<td>PA</td>
<td>Pennsylvania Turnpike</td>
<td>Lease</td>
<td>2008</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>Interagency Conflict</td>
<td>N/A</td>
<td>Political Opposition</td>
<td>Fiscal constraints</td>
</tr>
<tr>
<td>CA</td>
<td>SR 91 Express Lanes, Orange County</td>
<td>DBFOM</td>
<td>2003</td>
<td>Early Termination</td>
<td>Open to Traffic</td>
<td>Inadequate Contract Terms</td>
<td>N/A</td>
<td>Local Opposition</td>
<td>Political Opposition</td>
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<tr>
<td>VA</td>
<td>I-81 Corridor Improvements</td>
<td>DBFOM</td>
<td>2008</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>Intergovernmental (Business) Conflict</td>
<td>Local Opposition</td>
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<td>Less than optimal business practices or competitiveness factors</td>
</tr>
<tr>
<td>CA</td>
<td>Mid-State Tollway (Alameda and Contra Costa counties)</td>
<td>DBFOM</td>
<td>2001</td>
<td>Cancelled</td>
<td>Commercial Close</td>
<td>N/A</td>
<td>Local Opposition</td>
<td>Political Opposition</td>
<td>Demand problems</td>
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<tr>
<td>NC</td>
<td>Mid-Currituck Bridge</td>
<td>DBFOM</td>
<td>2012</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>N/A</td>
<td>Ideological Opposition</td>
<td>Political Opposition</td>
<td>Yes, but reason unclear</td>
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<tr>
<td>FL</td>
<td>First Coast Outer Beltway</td>
<td>DBFOM</td>
<td>2011</td>
<td>Cancelled</td>
<td>Submit Qualifications</td>
<td>N/A</td>
<td>Local Opposition</td>
<td>N/A</td>
<td>Cost escalations</td>
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</table>
Table 1: Factors Present at Deferment, Early Termination or Cancellation of U.S. Surface P3 Projects; Sorted by Number of Risks

<table>
<thead>
<tr>
<th>State</th>
<th>Project Name</th>
<th>Contract Type</th>
<th>Year</th>
<th>Status</th>
<th>Stage at Final Status</th>
<th>Bureaucratic Complexity</th>
<th>Public Voice</th>
<th>Political Voice</th>
<th>Economic Complications</th>
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<tbody>
<tr>
<td>TX</td>
<td>Trans-Texas Corridor I-35, TTC-35</td>
<td>DBFOM</td>
<td>2009</td>
<td>Cancelled</td>
<td>Commercial close</td>
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<td>Local Opposition</td>
<td>Political Opposition</td>
<td>N/A</td>
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<td>TX</td>
<td>TTC-69</td>
<td>DBFOM</td>
<td>2009</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>N/A</td>
<td>Local Opposition</td>
<td>Political Opposition</td>
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<tr>
<td>CA</td>
<td>Accelerated-Regional-Transportation-Improvements</td>
<td>DBFOM</td>
<td>2014</td>
<td>Cancelled</td>
<td>Teams Shortlisted</td>
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<td>N/A</td>
<td>Legislative Change</td>
<td>Fiscal constraints</td>
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<tr>
<td>AK</td>
<td>Knik Arm Bridge</td>
<td>DBFOM</td>
<td>2014</td>
<td>Cancelled</td>
<td>Teams Shortlisted</td>
<td>N/A</td>
<td>Legislative Change</td>
<td>Insufficient economic viability</td>
<td></td>
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<tr>
<td>FL</td>
<td>Alligator Alley, I-75</td>
<td>Lease</td>
<td>2009</td>
<td>Cancelled</td>
<td>RFP</td>
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<td>Political Opposition</td>
<td>Less than optimal business practices or competitiveness factors</td>
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<td>IL</td>
<td>Illiana-Expressway-Illinois-Portion-1</td>
<td>DBFOM</td>
<td>2015</td>
<td>Cancelled</td>
<td>Teams Shortlisted</td>
<td>Inadequate Contract Terms, Interagency Conflict (Legal)</td>
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<td>N/A</td>
<td>N/A</td>
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<tr>
<td>IN</td>
<td>Illiana-Expressway-Indiana-Portion-1</td>
<td>DBFOM</td>
<td>2015</td>
<td>Deferred</td>
<td>Team Shortlisted</td>
<td>Inadequate Contract Terms, Interagency Conflict (Legal)</td>
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<td>N/A</td>
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<td>FL</td>
<td>Northwest Hillsborough Expressway (East-West Road)</td>
<td>DBFOM</td>
<td>2008</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>N/A</td>
<td>Local Opposition; Ideological Opposition</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>State</td>
<td>Project Name</td>
<td>Contract Type</td>
<td>Year</td>
<td>Status</td>
<td>Stage at Final Status</td>
<td>Bureaucratic Complexity</td>
<td>Public Voice</td>
<td>Political Voice</td>
<td>Economic Complications</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td>GA</td>
<td>I-75/I-575 North</td>
<td>DBFOM</td>
<td>2011</td>
<td>Cancelled</td>
<td>RFP</td>
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<td>CA</td>
<td>Route 57</td>
<td>DBFOM</td>
<td>2001</td>
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<td>N/A</td>
<td>Legislative Change; NIA</td>
<td>N/A</td>
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<tr>
<td>TX</td>
<td>Cameron County, SH 550 Connectors SH 161</td>
<td>DBFOM</td>
<td>2011</td>
<td>Cancelled</td>
<td>Preferred Bidder Teams Shortlisted</td>
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<td>N/A</td>
<td>Legislative Change; NIA</td>
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<td>TX</td>
<td>SH 121</td>
<td>BOT</td>
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<td>N/A</td>
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<td>VA</td>
<td>Route 460 Corridor</td>
<td>DBFOM</td>
<td>2009</td>
<td>Cancelled</td>
<td>RFP</td>
<td>N/A</td>
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<td></td>
<td>Insufficient economic viability; Demand problems; Insufficient economic viability</td>
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<tr>
<td>TX</td>
<td>Camino Colombia</td>
<td>DBFOM</td>
<td>2004</td>
<td>Early Termination</td>
<td>Open to Traffic RFP</td>
<td>N/A</td>
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<td></td>
<td>Demand problems; Fiscal constraints</td>
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<tr>
<td>MS</td>
<td>Jackson Airport Parkway Connector</td>
<td>DBFOM</td>
<td>2009</td>
<td>Deferred</td>
<td>RFP</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td>Fiscal constraints</td>
</tr>
<tr>
<td>MO</td>
<td>Safe Sound Bridge Improvement</td>
<td>DBFM</td>
<td>2008</td>
<td>Cancelled</td>
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<td>N/A</td>
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<td>Fiscal constraints</td>
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<tr>
<td>OR</td>
<td>Sunrise project</td>
<td>INA</td>
<td>2007</td>
<td>Cancelled</td>
<td>Preferred Bidder</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td>Insufficient economic viability</td>
</tr>
</tbody>
</table>

Table 1: Factors Present at Deferment, Early Termination or Cancellation of U.S. Surface P3 Projects; Sorted by Number of Risks
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<tbody>
<tr>
<td>OR</td>
<td>Newberg-Dundee Transportation project</td>
<td>INA</td>
<td>2007</td>
<td>Cancelled</td>
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<td>N/A</td>
<td>N/A</td>
<td>Insufficient economic viability</td>
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<td>OR</td>
<td>South I-205 Corridor Project</td>
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<tr>
<td>IN</td>
<td>I-69 section 5</td>
<td>DBFOM</td>
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<td>VA</td>
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<td>Cancelled</td>
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<td>Less than optimal business practices or competitiveness factors</td>
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<td>NV</td>
<td>Project NEON, US 95/I-15</td>
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<td>Cancelled</td>
<td>Teams Shortlisted</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Rising interest rates/private sector uncertainties</td>
</tr>
</tbody>
</table>

Note: Intergovernmental Conflict represents an authority overlap. Local Opposition represents the presence of NIMBY or grassroot movements; Ideological Opposition indicates the presence of Environmental Activism, Private and Foreign Firm Opposition. Source: Authors’ analysis from databases and reports, State DOT websites, and news outlets. NA: Not applicable. NIA: No information available.
5. Discussion

The database findings suggest that all four potential drivers – bureaucratic complexity, public voice, political voice, and economic complications – played a strong role in U.S. surface transportation P3 cancellations, deferrals, and contract terminations. These findings suggest that troubled projects reflect broad economic and political risk management failures by both the public and the private sectors.

Specifically, bureaucratic complexity influenced several database cases but was not as common as other risk factors. It also appears insufficient for cancelling, deferring, or terminating a project on its own. When they occurred, inadequate contract terms tended to generate destructive power imbalances within partnerships or legal vulnerabilities that voided project terms. In this vein, public agencies should be particularly cautious when employing non-compete clauses as they can inhibit the public-sector’s ability to respond to demand changes. To avoid or overcome contract and legal issues, all parties should consider developing dedicated P3 offices, staffed by dedicated, knowledgeable people, to aid in contract development, establish contract best practices, and manage common legal concerns. At a minimum, states and localities should seek out experienced leaders in the field and engage with the growing P3 community when considering P3 approaches. Although P3s remain a relatively new procurement approach within the U.S., a greater pool of resources and expertise will become available as the market develops.

Experienced, dedicated P3 staff might also mitigate coordination problems and interagency conflict by championing projects, smoothing relationships, providing impartial analysis, and coordinating and consolidating approval and permitting processes. Acting as an educational resource for government stakeholders, such staff might also mitigate some of the political pressures contributing to project cancelling.

In addition to bureaucratic challenges, public opposition to environmental impacts, noise pollution, and eminent domain seizures appeared frequently among the P3 database cancellations, along with anti-corporate mistrust and opposition to project costs. This public opposition often produced political activity and/or compounded economic complications to undermine the database projects. The literature suggests that community engagement strategies can help address such community opposition by moderating the limited, inaccurate, and/or distorted information that tends to increase oppositional pressures (Hefetz and Warner 2007; DeLeon and Denhardt 2000; Warner and Hefetz 2008). First, existing procedures, including public meetings in compliance with the National Environmental Policy Act
(NEPA), can also allow public agencies to solicit community input and identify or modify alternatives to fit community priorities. This appears particularly important for complex P3 delivery models like DBFOM and DBOM contracts given their complex risk-sharing arrangements, project structures, potential benefits, and benefit schedules.

Second, grant programs can help affected communities express their needs and contribute to solution development. Already implemented by the private sector, these grant programs can also support educational, environmental, and social programs in affected areas. For example, Transurban, operator for Virginia’s successful I-495 and I-95 projects, has granted monies to community projects including beautification efforts, arts programs, and youth bicycle initiatives (Castillo 2016). Concessionaires operating Texas’ successful LBJ Express and North Tarrant Express 35W projects have also established budgets for improving science, technology, engineering, and mathematics (STEM) education at local schools located within the project corridor (North Tarrant Express 35W 2017; Hinkle 2016). Such integration and engagement efforts can help quell fears regarding private-sector actors taking advantage of local governments and can build social capital for future investments. It is recommended, however, that these programs be implemented early in the procurement process (before financial close) to have the strongest impact on political risk management outcomes.

Third, P3s’ can produce large and long-term economic impacts for many communities but P3 consortiums companies often lack trusting partnerships and relationships with local businesses. Such relationships can help diminish public opposition and provide reliable associations over a project’s lifetime. As a result, direct engagement with the local businesses community can prove critical for P3 success. Recognizing this, many project contracts require the use of local contractors and/or include policies requiring a set percentage of Small, Women-owned, and Minority-owned Business and Disadvantaged Business Enterprises (SWaM/DBE).

Beyond political factors, economic complications factored into two-thirds of the P3 database cancelations, terminations, and deferments. The case findings demonstrate that not all projects are viable, whether or not they employ P3 delivery approaches. Public agencies should recognize that P3 delivery most likely cannot turn an unviable project into a viable one. Improved due diligence, evaluation criteria, usage best practices, and competitive processes (public and private) appear critical for successful P3 project selection and for avoiding the business-practice and competitiveness issues that can undermine
otherwise promising projects. The findings also show that exogenous economic conditions can influence P3 project outcomes. While the Great Recession represented an extreme shock, ongoing sensitivity analyses for fiscal constraints, demand projections, and interest rate projections probably could have improved risk management during procurement processes. In addition, the high number of projects cancelled rather than deferred suggests the market might benefit from better mechanisms for deferring projects until more advantageous economic conditions arise.

6. Conclusion

This research developed a database and analytical framework for examining the influence of political and economic risk factors on U.S. surface transportation infrastructure P3 project deferments, cancellations, and terminations. The authors first compiled a dataset of 68 P3 projects including information on project stages and associated cancellation, deferment, and early termination risks. Of 68 projects examined, 37% were cancelled, 3% were deferred, and 6% had their contracts terminated early. Overall, political risks contributed to 19 of 24 project cancellations, 1 out of 2 deferrals, and 2 out of 4 early terminations. Economic risks contributed to 16 out of 25 cancellations, 1 out of 2 deferrals, and 3 out of 4 early terminations.

Despite these frequencies, project cancellations do not necessarily indicate inherent flaws in P3 projects or their deal structures. Political factors might simply overwhelm an otherwise viable project. Exogenous economic shocks can also play important roles. As a result, jurisdictions with strong public voice traditions should prioritize public engagement when pursuing large investment decisions in their communities. Furthermore, since economic risks remain ever present, project deferment strategies may prove valuable when paired with strong due diligence practices. By combining such political and economic risk management strategies, P3 decision-makers might reduce P3 deferments, cancellations, and terminations in future.

Ultimately, this article compiles a complete historical cancellation analysis for audiences considering P3 surface transportation projects in the U.S. and beyond. Although these findings go a long way toward describing the relationships between P3 project outcomes and risk factors, the research scope was limited. As a result, much scope for future work exists, including a) extending the risk analysis to non-cancellation project outcomes (delays, design modifications, cost increases, legal problems, toll
buyouts etc.) and b) a deeper investigation into the interactions between political risk factors and economic complications.

7. Acknowledgements: The authors wish to extend their gratitude to Morghan Transue who provided edits and comments to a draft version of this paper.

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