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Understanding project cancellation risks in U.S. P3 surface transportation infrastructure

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Abstract

The research examines understudied risk factors of cancelled, deferred, and early terminated public-private partnerships (P3) in the U.S. P3s can face a series of risks internal and external to the development and implementation of a project. Using the identified U.S. surface P3 transportation population this paper uses literature review and multi-case study method to identify common risk factors that lead to project cancellation or early termination of the P3 contract. 68 projects are identified. 31 were cancelled, deferred or the P3 contract was terminated early. Data collection focused on the identification of political (public and political voice, bureaucratic complexity) and economic risk factors of cancelled, deferred, and early terminated P3 projects. The most frequent factors include political opposition, public opposition, and inadequate demand projections. As the paper studies the population of all U.S. surface transportation P3 projects, the results here serve to inform public agencies and private sector of possible external friction points to consider in P3 procurement planning.

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1. Introduction

The U.S. public sector is facing aging infrastructure system challenges combined with binding debt ceilings. This is increasing interest in attracting private sector resources via public-private partnerships (P3s)

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financing and delivering surface transportation and transit projects (Department of the Treasury 2014; The White House 2018). P3 delivery methods typically feature long-term contracts that distribute project, construction and financial risks between a public sector owner and a private sector concessionaire (Iossa and Martimort 2008). 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) As such, P3s enable private sector financing while supporting stronger private sector oversight and coordination across several project stages. This contrasts greatly with traditional procurement where the public sector maintains considerable control over all procurement and construction stages, simply hiring the private sector to build the asset.

Despite advantages, P3s present challenges. P3 projects face complications from renegotiations, bankruptcy, early terminations, deferrals, and in the most extreme cases cancellation. For the scope of this paper only early terminations and cancellation are considered. Early terminations occur post-financial close, cancellations occur at any point during the procurement process until financial close. In general, risks typically derive from the imposition of constraints upon business arrangements via government and/or community actions (Kobrin 1979). Two categories of potential risks are identified for study: political and economic risk. Economic and political risks have proved particularly salient for P3 infrastructure projects globally for several reasons. First, private companies' concern for internal rates of return and their lenders' sensitivity to debt service payments make their investment decisions more 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 threaten to produce outsized impacts on project completion likelihoods, procurement process, transaction costs, and expected returns on the private investment. Second, P3 infrastructure projects' capital-intensive nature and large investment magnitudes 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). Third, 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).

According to previous analyses specific to infrastructure projects, several 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 manifest into political and economic risks during the procurement process that influence project outcomes (Jeffrey D. Simon 1984; Bing et al. 2005; Cheung and Chan 2011; World Economic Forum 2014) (Moszoro and Spiller 2012).

In the U.S., public opposition to privately financed infrastructure projects, particularly when they involve tolls, has generated considerable industry concern and may even have affected state gubernatorial elections (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).

In response, the following paper investigates three research questions exploring potential relationships between political risks and project outcomes in the increasingly strained U.S. surface transportation P3 market. First, how frequently do stakeholders cancel, defer, or terminate U.S. surface transportation P3 projects? Second, what drivers contribute to these cancellations, deferrals, and terminations? Third, what lessons can public and private sector stakeholders draw from cancelled, deferred, and terminated projects within the U.S. surface transportation P3 market? To answer these questions evidence is presented of what is driving P3 project cancellation in the U.S. The analytical data presented herein helps raise practitioners' and scholars' awareness of relevant risks affecting U.S. P3 surface transportation procurement processes, how the cancellation frequency may

affect P3 transaction costs. The data also suggest that community engagement can mitigate political risks, as some successful projects have done, along with community grants and Small, Women-owned, and Minority-owned Business and Disadvantaged Business Enterprise (SWaM/DBE) policies. To mitigate the effects of economic risks it is suggested that P3 partners take a long-term view of returns, although in many cases economic shocks cannot be overcome.

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 analysis is 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 contrast to many developing countries, political risk in the United States generally does not arise from government instability or from corruption involving public officials. Instead, practitioners have argued that factors like contract ambiguity, expectation management failures, principal-agent problems, and administrative changes have led to project delays and possibly project cancellations in the U.S. context (Guthkelch 2016). Talus (2009) Zhang and Xiong (2015) and Song, Hu and Feng (2017) analyze factors specific to influencing early termination P3 projects. Talus (2009) identified common reasons for early termination in energy infrastructure concessions or licenses in Europe recognizing the presence of both economic risks, tied to future demand and availability risk, and political risks resulting in changes to investment climates. Zhang and Xiong (2015) surveyed a global sample of P3s to compare global contract types and contend early-terminations result from unexpected risk events not accounted for in the original contract, indicating therefore the failure of the contract. Song, Hu, Feng (2017) study early terminations in China. In their review process several relevant factors were identified, among which are inaccurate demand forecast, change in market demand, public opposition, and regulatory change.

Placing these risks in the U.S. P3 context, government actions might range from regulatory activities – denying environmental permits for example – to a new administration’s unwillingness to advance a 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). As a result, the authors structured their analysis around four project cancellation drivers – bureaucratic complexity, public voice, political voice, and exogenous economic shocks – juxtaposing the internal bureaucratic conflicts projects face with external conflicts deriving from economic conditions, politicians, and the public. These risks appear similar to the cancellation, environmental permitting, and community risks described in (World Economic Forum 2014), although the present analysis does not constrain risks to the planning and design phase. Instead, political and economic risks can produce project cancellations during procurement and even through early contract termination processes.

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 and struggle with multiple objectives. The willingness of each agency to face the trade-offs needed to achieve a Pareto optimal solution or to move to second-best solutions can face resistance (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 where the sponsoring public agency lacks the skills or knowledge necessary to fully develop a comprehensive agreement, a problem faced by many agencies implementing P3s for the first time. Comprehensive agreements typically cover thousands of pages with civil engineering, financial and legal terminology that lacks standardization or institutional learning pathways across the U.S. regulatory landscape. Inadequate contract terms can also manifest due to information asymmetry or opportunistic behavior on the behalf of either the public or private sector.

2.2. Public Voice

Project cancellation risk can also derive from political action 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. Political voice can drive P3 risks through two pathways. First, a shift in a political body’s makeup can transform the political environment and increase in 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, 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 legislatures’ ideological wills can result in the repeal or expiration of such legislation. 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 consensus, 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, particularly in communities facing the project-related construction and disruption, by attacking projects and generating fear. This is particularly relevant for P3 projects since their complex contracts open incumbents to third party challenges, potentially offering a greater opportunity for attack and weakening re-election chances (Moszoro and Spiller 2012). Due to these reasons *legislative change* can occur during any legislative session or as the result of allowing enabling legislation to expire, as in California in 2017. 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, 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 particularly 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). Factors contributing to economic complications face by projects identified by Song et al (2017) include: inaccurate demand forecast, the presence of competitive projects, lack of supportive infrastructure, government payment default, insufficient financing capacity, and change in market demand.

3. Data and Methodology

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, the research team compiled a database of the population of U.S. P3 surface transportation projects in order to investigate cancellation risks at each stage of P3 project development. The database included surface transportation (roads, motorways, bridges, tunnels) but excluded transit, airport, social infrastructure, and other transportation related projects like street lighting to preserve comparability between projects. In addition, the data collection effort focused 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 data collection to a) publically 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 a Request for Proposals (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 four 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 reverted to traditional procurement approaches, meaning the P3 approach was no longer used or if the project was cancelled outright. Detailed project descriptions were included as well, along with information about each stage in project development process.

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.

Following Song et al (2017) the authors use a four-step process methodology: case selection, data collection, result discussion, summary of counterstrategies. This paper chose to study the entire population of U.S. surface transportation projects, so once that criteria was set there was not further need to define case selection criteria. Data collection included reviewing project documents, websites, and news outlets. To identify political risk and provide consistency across information gathering, the authors employed a coding approach to aggregate multiple activities 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. To identify economic risk the authors employed a similar approach, aggregating into an additional four binary risk factors: inaccurate demand forecast, change in market demand, the presence of competitive projects, and insufficient financing capacity or other financing restraints.

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. 1 (Fargo Bridge, ND) returned fully to the public sector following P3 contract completion. 1 remains under procurement, and 10 projects remain under construction. In answer to the paper’s first research question, 25 of the database projects were canceled during procurement, 2 were deferred, and 3 resulted in early P3 contract terminations when public owners reestablished control midway through private concessionaire operations. Additionally, 1 project faced early termination during construction: Indiana’s I-69. 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, three terminated, and 16 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 33% cancellation rate (1 out of 3). Most project cancellations and deferrals 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. Not surprisingly most projects (13) were cancelled following the selection of preferred bidder, undoubtedly during initial 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 22 of them; economic complications risks contributed to 19. Breaking the findings down further, 11 projects demonstrated political risks without economic complications, 9 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.

4.2.1. Bureaucratic Complexity

Six projects demonstrated bureaucratic complexity expressed as 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. It was one of the four original P3 experiments California implemented through Assembly Bill No. 68 in 1989. The American Transportation Development (ATD) held a toll road franchise which expired in Jan 2001. State Route 57 was purchased back by the public sector. The project was eventually cancelled because ATD did not begin the construction of the project within the first ten years after it had been approved by 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 Turnpike Authority pushed back, advocating instead for public control and revenue generation through state tolling. The pressure ultimately resulted in 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).

In summary, contract/legal plus interagency problems can doom a project but were not as common in the cancelled cases as other risk factors. Also, bureaucratic issues appear insufficient to cause a project to be cancelled on their own – more often paired with public/political opposition or economic complications.

4.2.2. *Public Voice*

Turning next to public voice, nine projects demonstrated public opposition and five demonstrated ideological opposition, paired with public or political opposition. Such opposition, typically manifested through environmental, tolling, and/or transparency concerns, contributed strongly to the project cancellations and deferrals, particularly during the procurement stage, and to early termination, particularly in California.

The California projects now operated by the public sector: South Bay Expressway, SR 91 Express Lanes, and the cancelled Mid-State Tollway did face public opposition once expected revenues dropped, leading to distrust of private sector involvement in the projects. (Weikel 2002). In particular, the non-compete clause in SR 91 caught the public's attention and opposition to the private sector's involvement in the project grew.

As was previously discussed environmental opposition (one dimension of ideological opposition), either through legislative action and/ or grassroot movements can be detrimental for a P3 project's survival. Environmental concerns are warranted in many cases and need to be taken into account. California's South Bay Expressway saw cost increases from environmental lawsuits contributed to bankruptcy and contract termination. State-Road-54/56, FL54 Xpressway in Tampa faced fierce public opposition. The proposal included elevated lanes. The wetlands presented high construction costs due to the necessity of raised structure. Objections came from established organizations such as the Urban Land Institute and the Sierra Club, opposition has existed to a project in this area since the 1980s, prior to the proposal of a P3. NIMBYism was also present as residents expressed concerns about noise pollution and eminent domain fears. The project developed higher costs than expected, both in building and with regards to environmental degradation to the wetlands, resulting in construction requirements for raised structures. Northwest Hillsborough Expressway (East-West Road) faced public opposition beginning in the 1980s before a P3 was ever considered. This legacy of opposition prevented development along the route. Later, due to increased congestion and traffic the project was reopened in the mid-2000s. The proposed routing through sensitive wetlands caused public concerns and activism. In North Carolina, the Mid-Currituck Bridge faced legislative issues and public opposition due to environmental degradation. No longer considered for a P3 procurement, the public project continues to face public opposition on environmental degradation grounds.

The remaining projects did show evidence of strong public opposition. In Texas, TTC -35 and TTC 69 faced a citizen uprising beginning in 2003 and political opposition from both democrats and republican legislators in the state. Citizens for a Better Waller County have been opposed to the TTC/I-69 corridor since its inception. The project did have strong political support at the gubernatorial level in then Governor Perry and he, along with other supporters in state government pushed the projects forward. The projects grew more publicly opposed and as a result politically unpopular and the decision to cancel the project came in 2009. Collapsing political support as a result of concerns over eminent domain, private property rights, and environmental hazards grew out of public action against the project, in addition to objections directed towards tolling. Common opposition bundles appear to collapse around environmental degradation worries, noise pollution and the fear or realization of eminent domain. Public opposition can often lead to increased political opposition.

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, fourteen 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 public opposition influencing their cancellations. Virginia's I-81, however, saw opposition from the trucking industry and public opposition grew over the life of the project, 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 type: 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 public 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 public opposition to environmental, noise pollution, and eminent domain seizures appear relevant for P3 cancellations, public opposition to tolling opposition appears unlikely to drive project cancellations in the U.S. surface transportation P3 market in isolation.

4.2.3. *Political Voice*

Political voice factors were similarly common drivers for project cancellations and terminations. Eleven projects demonstrated political opposition, five projects demonstrated legislative change (typically paired with political opposition), and one due to political transition.

Political actors cancelled or terminated several database projects in response to public opposition. This included both of California's contract termination cases: South Bay and SR 91. In the South Bay case, the project faced federal regulatory opposition. Political opposition, drawn in part from public outcry over the SR-91 case's non-compete clause, also contributed to that project's public-sector buyout. Political actors also influenced the termination of the Mid-State Tollway project, in part due to the public's growing distrust (Weikel 2002). Similar processes played out in Texas. Governor Perry and other state government supporters pushed the Trans-Texas Corridor I-35 and TTC 69 projects forward, but citizen uprisings produced opposition from both Democratic and Republican state legislators. The projects' declining political popularity then contributed to their 2009 cancellations. Political willingness to support Florida's FL-54 Xpressway also declined dramatically in response to rising environmental mitigation costs. Political, policy, and legislative changes transitions likewise contributed to Georgia's I-75/I-757 North cancellation. 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.

Pennsylvania Turnpike's lease proposal included a limit to 30 years and dedication of 100 percent of the proceeds to transportation projects, however the plan was met with fierce internal opposition, mainly by the Turnpike Authority. The plan had received majority support from voters but the plan provided little structure and path forward to incentivize the private partners to go forward with the agreement. The lease plan was floated directly after Act 44 was passed, and political opposition grew after the winning bid was less than expected.

Political opposition 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 the resulting delays and uncertainties raised costs and stirred up public opposition during the global financial crisis, the cancellation occurred.

Legislative action presented challenges in several other cases as well. For instance, the Alaska State Legislature, for instance, abandoned the P3 approach in 2014 after toll revenue appeared insufficient for project development. Section 143, California's P3 enabling legislation presented challenges for ARTI procurement, producing the project's 2014 cancellation. P3 enabling legislation in California has since lapsed. Texas' SH 161 and SH 550 Cameron County began as P3s but after the preferred bidder was selected the state chose to use a public delivery. Similarly, legislation passed in May 2007 requires that the Texas Department of Transportation consider public project delivery (NTTA) to deliver the financing for a project. In the lone canceled BOT project case, Texas' SH 121, TxDOT accepted NTTA's proposal, cancelling the P3 procurement. Finally, North Carolina's Mid Currituck Bridge project selected preferred bidders but the required legislative approvals were not obtained, leaving the project with the public sector.

Political transitions can signal detrimental policy changes for P3 projects, but they appeared in only one of the database's cancellation cases case: Georgia's I-75/I-575 North (see discussion above). By the time a new governor cancelled Virginia's Route 460 project, the project had already shifted to a design-build (DB) contract

after the P3 approach garnered insufficient private-sector interest. As a result, there is little evidence that changes in political power necessarily signal cancellations. The U.S.' mature political system, manifested through bureaucratic complexity and legislative pressures, may limit incoming administrations' ability to modify previous decisions. Alternatively, and a possible area of future research, political transitions may have greater impacts on project delays rather than on cancellations, deferments, or terminations.

In summary political voice plays an important part in project cancellation. Four key points illuminated by the analysis are: 1) Political actors respond to public opposition; 2) political opponents can influence project outcomes; 3) legislative/policy changes can undermine projects 4) political transitions don't seem to be a common mechanism behind project cancellations.

4.2.3. Economic Complications

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

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. Virginia's Route 460, similarly, did not receive private sector support as a DBFOM project and shifted to a design-build (DB) contract before being cancelled by an incoming governor. The project faced high environmental risks but the project's poor economic outlook presented the greater obstacle. Oregon also attempted three P3s – the Sunrise project, Newberg-Dundee Transportation improvement project, and South I-205 Corridor Project – but cancelled all three in 2007 after it deemed toll projections and other financial indicators insufficient for financing.

The presence of fiscal constraints is prevalent amongst cancelled projects. Mississippi's Jackson Airport Parkway Connector case deferred after bidders could not obtain investment grade ratings for financing and consequently could not submit proposals during the global financial crisis. Similarly, Missouri Safe Sound Bridge, a DBFM, struggled to find financing during the 2008 economic downturn. Alaska's Knik Arm Bridge could not find financing as a traditionally procured project, therefore a P3 was explored. The P3 approach for Alaska fared no better, and projected toll revenue fell below sufficient levels to attract private sector interest. In the case of the Pennsylvania Turnpike a funding gap of \$500 million dollars per year was identified as tolling had been denied. There was public support for a P3 plan but the Turnpike Authority pushed back, advocating for control of the turnpike and revenue through state tolls; the private consortium eventually withdrew its bid (Toll Roads News 2008). The Accelerated Regional Transportation Improvements (ARTI) included six P3 highway projects bundled together. Section 143, California's P3 enabling legislation presented challenges for procurement. The financing of the projects through the P3 model was not clear. ARTI was cancelled in April 2014, and P3 enabling legislation in California has since lapsed.

Demand problems arose in the case of Texas' Camino Colombia – when it fell into foreclosure in 2004 after generating less than 6% of its expected revenues. The private operator sold the project to the Texas Department of Transportation after trying to extract a higher price by closing the facility, potentially exemplifying private sector opportunism (Guasch 2004). Announced as a P3 in 2006, Virginia's Route 460 did not get the support from the private sector as a DBFOM project. Eventually the project was implemented as a design-build (DB) contract and later cancelled by an incoming Governor, as the project had not yet been approved by the Army Corp of Engineers. There was high environmental risk but that is more a symptom of the project not being viable rather than facing intense opposition. The project became too costly to pursue as a P3. The political transition resulted in the cancellation of the DB project, the P3 had already been cancelled by this time.

Less than optimal business practices and competitiveness factors played a role in project cancellation as well. Indiana I-69 saw contract termination occur following problems with parent company. The parent company of

the special purpose vehicle, Isolux, faced embezzlement charges in Spain three weeks after the financial close of I-69 took place (Alesia and Lange 2017). This potentially affected the private partner's financial and managerial ability to deliver the construction of the road on time. For Dulles Toll Road the Metropolitan Washington Airports Authority won the bid, rather than one of the private sector bidders. This effectively cancelled the P3, turning it into a "public-public" partnership. In addition to political opposition against Alligator Alley (I-75) there was financial uncertainty combined with the collapse of the Chicago Midway leading to aversion by private investors to get involved in such projects. The project corresponded to the global financial crisis and it was reported at the time that the potential bidders for the project had requested a delay in the project procurement due to financial and economic uncertainties (Toll Roads News 2008). Virginia I-81 is a unique case where the coordination problems were primarily with the private partner. I-81 corridor improvements began as an unsolicited proposal submitted by STAR Solutions in 2002. The unsolicited proposal was returned and VDOT solicited proposals toward the end of 2002 ultimately selecting STAR Solutions as the preferred bidder. Four years into negotiations following the selection of the preferred bidder, the P3 project was cancelled. KBR, the lead company in the consortium cited changes in corporate ownership and requested cancellation (Roads & Bridges 2008). In this case it appears to be corporate disfunction that ultimately led to cancellation, and while opposition was present during the procurement process, the cancellation came from the private side, a unique situation amongst P3 projects. The state of Oregon attempted three P3s: The Sunrise project, Newberg-Dundee Transportation improvement project, and South I-205 Corridor Project. All three reached the preferred bidder selection but were cancelled in 2007 as the projects were deemed not financially feasible by the state. Specifically, toll projections were not sufficient enough to finance Sunrise and Newberg-Dundee.

Rising interest rates and additional private sector uncertainties due to external forces are also present in the cases. Project NEON, US 95/I-15, a brownfield availability payment motorway in Nevada was cancelled in August 2014 due to higher interest rates, rising finance costs and increasing operation and maintenance expenses (Shine 2014).

Often projects already struggling with opposition or bureaucratic complexity face additional pressure from financial troubles, ultimately leading to cancellation. Announced as a potential P3 in 1994 the Mid Currituck Bridge in North Carolina reached cancellation in December 2012. The preferred bidders had been selected however legislative approval was needed to define the project's revenue characteristics. Based on evidence presented the approvals were not obtained and the project is now in the hands of the public sector. Alligator Alley (I-75) in Florida faced strong political opposition in the form of legislation by a State Senator that introduced two bills, first to impose a two-year moratorium on leases, the latter to require the legislature to approve any lease agreements. Neither were enacted, and due to private sector uncertainties including the global financial crisis, the cancellation occurred. Rising project costs occurring due to public opposition also influences cancellation.

Cost escalations linked to community opposition (environmental lawsuits) and federal environmental regulatory opposition drove the South Bay Expressway to bankruptcy as the region suffered under the subprime mortgage crisis (Gifford, Bolaños, and Kweun 2016). The San Diego Association of Governors (SANDAG) then purchased the project after the courts granted its property to its lenders. Another California project, Mid-State Tollway, faced public opposition as expected revenues dropped, resulting in the distrust of private sector involvement (Weikel 2002). This resulted in both political opposition and private sector reluctance to continue to the project, among others. The Tampa Hillsborough County Expressway Authority attempted to secure a P3 to develop the route but faced a series of problems related to toll prices and the overall cost to build the project. First Coast Outer Beltway near Jacksonville, Florida met with cancellation in 2011 attributed to rising project costs and public opposition against the project. State-Road-54/56, FL54 Xpressway in Tampa, Florida, faced fierce public opposition. Lawsuits and the presence of NIMBYism resulted in additional costs in both the building and construction lead the public sector to abandon the P3 approach. The Tampa Hillsborough County Expressway Authority attempted to secure a P3 to develop the route but faced a series of problems related to toll prices and the overall cost to build the project.

In Texas, TTC-35, TTC 69, SH 161 and SH 550 in Cameron County cancellation occurred between March 2008 and January 2011 indicating some impact of economic risk due to the Great Recession. However, these projects faced tremendous political and public opposition as described in sections 4.2.1 and 4.2.2.

In summary three key points can be taken away from this analysis: 1) Not all projects are viable; 2) exogenous economic shocks are real; 3) businesses practices/competitiveness issues exist, but don't appear to be a primary cancellation driver.

Table 1: Stage and Factors present at Deferment, Early Termination or Cancellation of U.S. Surface P3 Projects

State	Project Name	Contract Type	Date of Final Status	Stage at Final Status	Political Risk Factors	Economic Risks
Deferred						
Indiana	Illiana-Expressway-Indianas-Portion-1	DBFOM	Jan-15	Team Shortlisted	Inadequate Contract Terms, Interagency Conflict (Legal)	No
Mississippi	Jackson Airport Parkway Connector	DBFOM	Sep-09	RFP	N/A	Yes
Early Termination						
California	SR 125 South Bay Expressway (SBX)	DBFOM	Dec-11	Open to Traffic	Intergovernmental Conflict; Inadequate contract terms; Public Opposition; Ideological Opposition; Political Opposition (federal)	Yes
	SR 91 Express Lanes, Orange County	DBFOM	Jan-03	Open to Traffic	Inadequate Contract Terms; Public Opposition; Political Opposition;	No
Texas	Camino Colombia	DBFOM	Apr-04	Open to Traffic	N/A	Yes
Indiana	I-69 section 5	DBFOM	Jun-17	Construction	N/A	Yes
Cancelled						
Alaska	Knik Arm Bridge	DBFOM	Mar-14	Teams Shortlisted	Political Opposition	Yes
California	Route 57	DBFOM	Jan-01	Commercial Close	Inadequate Contract terms	No
	Mid-State Tollway (Alameda and Contra Costa counties)	DBFOM	Jan-01	Commercial Close	Intergovernmental Conflict; Inadequate Contract Terms; Public Opposition; Political Opposition;	Yes
	Accelerated-Regional-Transportation-Improvements	DBFOM	Apr-14	Teams Shortlisted	Legislative Change	Yes
Florida	State-Road-54/56, FL54 Xpressway, Tampa	DBFOM	May-14	Preferred Bidder	Public Opposition; Ideological Opposition; Political Opposition;	Yes
	Northwest Hillsborough Expressway (East-West Road)	DBFOM	Jun-08	Preferred Bidder	Public Opposition; Ideological Opposition	Yes
	Alligator Alley, I-75	Lease	May-09	RFP	Political Opposition	Yes

State	Project Name	Contract Type	Date of Final Status	Stage at Final Status	Political Risk Factors	Economic Risks
Georgia	First Coast Outer Beltway	DBFOM	Feb-11	Submit Qualifications	Public Opposition,	Yes
	I-75/I-575 North	DBFOM	Dec-11	RFP	Political Opposition; Political Transition;	No
Illinois	Illiana-Expressway-Illinois-Portion-1	DBFOM	Jan-15	Teams Shortlisted	Inadequate Contract Terms, Interagency Conflict (Legal)	No
Missouri	Safe Sound Bridge Improvement	DBFM	Sep-08	Preferred Bidder	N/A	Yes
Nevada	Project NEON, US 95/I-15	DBFOM	Aug-14	Teams Shortlisted	N/A	Yes
North Carolina	Mid-Currituck Bridge	DBFOM	Dec-12	Preferred Bidder	Ideological Opposition Political Opposition;	Yes
Oregon	Sunrise project	INA	Jan-07	Preferred Bidder	N/A	Yes
	Newberg-Dundee Transportation improvement project	INA	Jul-07	Preferred Bidder	N/A	Yes
	South I-205 Corridor Project	INA	Jan-07	Preferred Bidder	N/A	Yes
Pennsylvania	Pennsylvania Turnpike	Lease	Sep-08	Preferred Bidder	Political Opposition; Legislative Change; Interagency Conflict	Yes
Texas	Trans-Texas Corridor I-35, TTC-35	DBFOM	Oct-09	Commercial close	Public Opposition, Political Opposition	No
	SH 161	DBFOM	Mar-08	Preferred Bidder	Political Opposition; Legislative Change	No
	SH 121	BOT	Jun-07	Preferred Bidder	Political Opposition; Legislative Change	No
	TTC-69	DBFOM	Oct-09	Preferred Bidder	Public Opposition	No
	Cameron County, SH 550 Connectors	DBFOM	Jan-11	Teams Shortlisted	Legislative Change; NIA	No
Virginia	I-81 Corridor Improvements	DBFOM	Jan-08	Preferred Bidder	Intergovernmental (business) Conflict; Public Opposition;	No
	Route 460 Corridor	DBFOM	Oct-09	RFP	N/A	Yes
	Dulles Toll Road	Long Term lease	Mar-06	Preferred Bidder	N/A	Yes

Note: Intergovernmental Conflict represents an authority overlap. Public 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 – economic complications, bureaucratic complexity, public voice, and political voice – played a strong role in U.S. surface transportation P3 cancellations, deferrals, and contract terminations. This suggests that troubled projects reflect broader economic and political risk management failures rather than a fundamental problem with P3 procurement approaches themselves. The findings

demonstrate no clear geographical or experiential patterns – a state’s early projects were no more likely to fail than later projects – but they suggest that both public and private P3 stakeholders would benefit from stronger political risk mitigation strategies in future.

Bureaucratic complexity influenced several database cases but was not as common as other risk factors and appeared insufficient for cancelling, deferring, or terminating a project on its own. Inadequate contract terms occurred in only a few projects yet can manifest either in disproportionate power distribution in the partnership or the legal influences voided exiting project terms. Coordination problems and interagency conflict present greater challenges than contract terms as frictions between agencies or private sector are difficult to manage and can lead to a legacy of avoidance to attempt any further projects.

Public voice also played a strong role in many of the cancelled, terminated, and deferred projects. While local opposition to environmental, noise pollution, and eminent domain seizures appeared most relevant for P3 cancellations, issues surrounding project costs and mistrust of corporate played roles as well. Such public opposition often translated into political action as well, although political risk management failures often appear to be project specific. As a result, public sector actors interested in pursuing P3 procurement approaches should work to develop citizen trust by ensuring accountability, improving transparency, and increasing community engagement.

With 11 projects demonstrating political opposition it is of utmost concern with regards to cancelled projects in addition to public outreach discussed above there is a greater need to communicate and work with government stakeholders. As P3s become more widely used in the US there is a greater pool of resources and expertise to draw from. When considering a P3 approach states and other localities should look at experience leaders in the field and engage with the growing community who regularly engage in P3s. Stakeholder engagement, similar to public and community engagement is critical to overcoming the derailment of a project by one outspoken opponent. As with bureaucratic risks, a dedicated P3 staff or office can be a resource for government stakeholder trying to determine the merits of P3 delivery.

To avoid these problems, lessons learned can be taken from the cases in the above categories. To overcome contract or legal issues all parties would be advised to have dedicated P3 offices of staff having dedicated knowledgeable people at the ready aids in ensuring adequate contract terms. These offices can aid in addressing and establishing contract best practice and manage common legal concerns. Interagency problems will also be mitigated by having access to experience or dedicated P3 staff to smooth relationships across agencies and to coordinate and consolidate the approval and permitting processes. Public agencies need to be mindful of the extent of non-compete clauses, as they can inhibit the ability of the public sector to respond to demand changes. Environmental impact should be limited but the documents should be carefully considered. Coordination problems and interagency conflict can be addressed by having an experienced or dedicated P3 staff to help smooth relationships across agencies. P3 offices or divisions help to coordinate and consolidate approval and permitting processes. Having dedicated knowledgeable people at the ready aids in ensuring adequate contract terms, to champion projects and provide impartial analysis of each project.

To address local public opposition the literature suggests that community engagement strategies can be key to addressing community opposition concerns since limited, inaccurate, and/or distorted information tends to increase oppositional pressures on decision makers (Hefetz and Warner 2007; DeLeon and Denhardt 2000; Warner and Hefetz 2008). P3 delivery models like the complex design-build-finance-operate-maintain (DBFOM) and design-build-operate-maintain (DBOM) approaches offer particular challenges for public agencies wishing to inform the public about risk sharing, project structures, potential benefits, and benefit schedules.

A suggestion is to ensure communication with affected communities: 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. In addition, given P3s’ potentially large economic impact for many communities, direct engagement with the local businesses community can also prove critical, although P3 consortiums with global companies often lack trusting partnerships and relationships with local. Recognizing this, many projects contracts require the use of local contractors and/or include

policies requiring a set percentage of contractors from Small, Women-owned, and Minority-owned Business and Disadvantaged Business Enterprises (SWaM/DBE). This is beneficial for the private sector as they will be operating decades-long contracts in the local economy. These relationships need to be cultivated in order to provide a consistent workforce for the life of the project.

An additional mechanism already implemented by the private sector introduces grants programs allowing affected communities to express their needs and contribute to solution development. These grant programs can also support education, environmental and social programs in areas affected by infrastructure projects. Transurban, operator for Virginia's I-495 and I-95 projects, for example, has granted monies to community projects including beautification efforts, arts programs, and youth bicycle initiatives (Castillo 2016). Integration into the local community can help to quell fears regarding perceived disregard on behalf of the private sector to take advantage of the local government. This interaction and engagement can aid in reducing future opposition to future investment. Concessionaires operating the 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 community engagement programs may improve project success, but their effect will vary based on the project stages in which they are implemented. These programs are also in the private sectors best interest as they prepare a skilled workforce relevant to the engineering and construction industry. It is recommended for these programs to be implemented early on in the procurement process. Programs implemented before financial close will likely provide stronger political risk management outcomes compared to programs implemented later in the procurement process.

During procurement planning economic complications appear to be a powerful driver behind P3 cancellations, terminations, and deferments. Economic complications contributed to nearly two-thirds of the cancelled, deferred, and terminated projects and presented four issues for P3 stakeholders. The analysis indicates not all projects are viable, whether they are P3s or not. In 10 of the database cases it appears that the cancellations, terminations, and deferments occurred all because of exogenous economic risks like in the cases of the Route 460 Corridor, Dulles Toll Road, the three Oregon projects, Project NEON, Safe Sound Bridge, Indiana I-69, Camino Columbia, and the Jackson Airport Parkway Connector. Better due diligence and developing evaluation criteria and best practices to understand to use a P3 is critical for success. Public agencies are recommended to resist thinking that simply using a P3 will turn an unviable project into a viable one. Being affected in part by economic risks with additional political risk factors. As such, project cancellations, terminations, and deferments may reflect economic conditions rather than the P3s' general merit. This is particularly true since although such shocks may have affected the private sector especially, they can also affect public projects.

Second, exogenous economic shocks are real as shown in the cases of Project Neon, Safe Sound, Jackson Airport, Alligator Alley, and South Bay Express. Some actions to take throughout the procurement process include conducting ongoing sensitivity analysis throughout the procurement process for fiscal constraints, demand projections, interest rate projections. The few projects to be deferred raises an interesting question, of why more projects that face pressured from exogenous shocks aren't more frequently deferred, compared to being outright cancelled? This suggests the industry needs better mechanisms to defer projects pending a return to friendlier economic conditions.

Third, businesses practices/competitiveness issues exist, but do not appear to be a primary cancellation driver. This is prominently illustrated in the cases of Indiana's I-69 and Virginia's Dulles Toll Road). Competition is essential to push for best business practices, and recognizing that P3s are not always the best way forward. The public sector is a direct competitor with the private sector in delivering projects. The evaluation of when P3s are most appropriate should include a better understanding of private sector uncertainties and how to mitigate them, the current market and business competition.

Last, political risks can develop into economic complications (delays, cost increases, legal costs). Florida's Alligator Alley, Tampa Hillsborough County Expressway, State-Road-54/56, FL54 Xpressway, and First Coast Outer Beltway; North Carolina's Mid-Currituck Bridge; and California's South Bay Expressway and Mid-State Tollway cases are examples of this. The presence of an uncertain economic climate can result in public and/or

political pressure or vice versa. Some suggestions to mitigate these effects are increased risk management and due diligence and consider the management of public and political opposition with forward thinking education and outreach to the affect community. Evaluating existing public and political friction points that may stall and ultimately cancel a project is needed to be better equipped to address concerns before the situation escalates to litigation, leading to increased project costs or public opposition unduly influencing political opinion. This in combination with economic complications leads to a potent formula for cancellation.

6. Conclusion

This article developed a database and analytical framework for examining the impact of political and economic risks on U.S. P3 surface transportation infrastructure projects. The authors 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 4% had contracts terminated early. Overall, political risks contributed to 19 of 25 project cancellations, 1 out of 2 deferrals, and 2 out of 3 early terminations. Economic risks contributed to 16 out of 2 deferrals, and 2 out of 3 early terminations. It is important to note an important take-a-way of the paper: project cancellation does not always mean the project was a bad project or deal structure; projects can be cancelled for being unpopular with public, not for being a bad contract or agreement. In addition, exogenous shocks can play a role in project cancellation. Interest rates, access to global credit markets, and recessionary worries leading to inadequate demand forecasts can arise unexpectedly during the procurement process leading to a decision to defer or cancel a project.

This article compiles the historical cancellation information for P3 surface transportation projects in the U.S. This information can be useful for an international audience to ascertain lessons learned for a nation diversifying its infrastructure delivery mechanisms. As noted, project early termination has a history of being studied in the literature, no work focuses on cancellations. In addition, this paper looks at the entire population of U.S. surface transportation P3 projects, not selected cases. Therefore, this paper provides a complete national analysis of a P3 market.

The important lessons learned apply to both the U.S. and other developing P3 markets. Nations that have a strong tradition of public voice should be wary of not fully engaging the public on important investment decisions in their communities. Furthermore, there will always be economic risk, a downturn in the global economy or home country of a concessionaire putting pressure on both the public and private sector partner, leading to cancellation. Note, many of the external risks related to local factors such as demand, fiscal constraints, local market uncertainties as well as being aware of national and global uncertainties could affect a project in a different state. One method to compensate for this is to defer a project until the economic conditions are more suitable, another depending on the urgency of the project is for the public sector to revert to delivering the project through traditional procurement. However, as many of these projects are cancelled at the preferred bidder stage ongoing sensitivity analysis can ensure continued vigilance to changing local, national, and global conditions. Political risks do play a role in project cancellation, yet with a strong project foundation, consistent community engagement and involvement, and collaboration between both public and private parties these risks can be mitigated.

Although these findings go a long way toward describing the relationships between P3 project outcomes and political risk factors, the universe of P3 projects remains small. Nonetheless, this study does account for a population of projects, overcoming validity problems. Public agencies, the private sector, and citizens with the U.S. and internationally can learn from previous experiences and modify their activities for subsequent projects. Data collection, coding, and analysis limitations. Future work includes: Extending the risk analysis to see how the factors explored here influenced non-cancelled projects (delays, design modifications, cost increases, legal problems, toll buyouts etc.) and a deeper investigation into the interactions between political risk factors and economic complications

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