# **Bankruptcy Policy and Surface Transportation Public-Private Partnerships: A Comparative Analysis of the U.S. and Europe**

**Jonathan Gifford**

George Mason University

3351 Fairfax Drive MS3B1, Arlington, VA 22201

Tel: 703-993-2275; Email: jgifford@gmu.edu

**Lisardo Bolaños, Corresponding Author**

George Mason University

3351 Fairfax Drive MS3B1, Arlington, VA 22201

Tel: 717-321-6971; Email: lbolano2@gmu.edu

**Jeong Yun Kweun**

George Mason University

3351 Fairfax Drive MS3B1, Arlington, VA 22201

Tel: 703-819-3668; Email: jkweun@masonlive.gmu.edu

Word Count: 5,483 words of text + 4 tables/figures x 250 words (each) = 6,483 words

Submitted to:

4th International Joint Conference in the Public-Private Partnership Conference Series

New York City, September 15-16, 2015

Discussion Draft: September 15, 2015

# **ABSTRACT**

This study explores bankruptcy legal frameworks as an explanation for perceived differences in U.S. surface transportation P3 outcomes compared to the European market. Through six U.S. and eleven European P3 bankruptcy cases, the study provides some evidence that the U.S. legal framework, either Chapter 9 or 11 of the U.S. Bankruptcy Code, favors continuous facility operation through debt restructuring rather than asset liquidation. When Chapter 11 was used, in five out of six times, no public sector money was used to bailout the project. The sixth case, the only U.S. case to employ foreclosure, also involved facility closures and the facility’s purchase by the public sector. The case studies also highlight how European countries, particularly France and Spain, have adopted new legal frameworks mimicking U.S. Chapter 11, promoting debt-restructuring procedures to diminish the fiscal impacts associated with asset liquidation. In the French case, there was no government bailout. In the Spanish case, given the government debt guarantee in the P3 contract, the approval of Chapter 11-like legislation has been to diminish the fiscal impact of paying to creditors. In the British experience government debt guarantee was executed and the company went to public sector hands. Further analyses should consider the Latin American experience and P3 defaults to increase the number cases and explore their legal influences and incentives. Given the relevance that government debt guarantees had in the UK and Spanish cases, and the role of interest rate swaps in the Indiana Toll Road, further research should be done on the financial arrangements of bankrupt projects.

*Keywords*: Public-private partnership, P3, bankruptcy, surface transportation, safeguard provisions, United States, Europe

1. INTRODUCTION

For governments around the world, public-private partnerships (P3s) offer an alternative approach to infrastructure provision in response to tightening fiscal conditions and concerns about risk allocation and project delivery. In particular, P3 approaches recognize the private sector’s resource-gathering potential for infrastructure financing and operation, and its willingness to assume project risks in expectation of future returns. Such risks can be substantial however, as became evident following the Great Recession. Demand risk in particular threatened many surface transportation P3 projects in both the US and Europe, with low facility demand generating negative bottom lines. In response to these financial difficulties, possible negative externalities have received particular attention.

P3 bankruptcies especially have raised concerns regarding public-sector resources and citizen welfare, including pension fund investments, service disruptions, and toll increases. Gifford, et al. (2014), analyzing renegotiations, defaults, bankruptcies, and buyouts among U.S. surface transportation P3s, found the U.S. experience particularly successful in protecting state and local governments and the public from bailing out the creditors. Comparisons drawn with European and Latin American experiences during the International Transport Forum Roundtable in October 2014 reinforced this finding. Two examples were mentioned. First, the Mexican experience, where, in 1997, 23 highway P3s were bailed out with government support equivalent to $7.3 billion. Second, the Spanish experience, where 9 highway P3 projects went bankrupt and the government was originally liable to pay up to $3.5 billion dollars.

Why might the U.S. demonstrate such relatively positive bankruptcy experiences compared to Latin American and European countries? Arguments regarding weak central governments or strong rules of law prove insufficient given the strength in Europe and the weaknesses in Latin America (Fukuyama 2014, chap. 26). Similarly, while both the U.S. and the United Kingdom rely on common law codes, in contrast to continental Europe’s civil law systems, their bankruptcy experiences differ (White, 1996). However, the U.S. bankruptcy framework might offer an explanation (see Hasselgren et al. (2014)) since it differs from other countries in its use of debt restructuring. While bankruptcies outside the U.S. typically involve asset liquidation (foreclosure) to repay a firm’s creditors quickly, a U.S. bankruptcy more often involves court-guided debt restructuring negotiations. The restructuring approach favors continued service provision, in contrast to lender-preferred asset liquidations that alter service provision and leave the P3 infrastructure facilities’ budgetary and personnel responsibilities with the public sector. As a result, the U.S. bankruptcy framework’s (law and practice) reliance on debt restructuring may provide superior public-sector protections compared to other countries’ asset liquidation approaches.

To evaluate this hypothesis, the following study explores two questions: (1) what similarities and differences exist between U.S. and European highway P3 bankruptcies (Latin America is not explore to avoid dealing with the weak state variable), and (2) do bankruptcy legal frameworks influence these bankruptcies’ public-sector outcomes? Given the low number of identified highway P3 bankruptcies, the paper uses a case study approach, comparing six U.S. bankruptcy cases with eleven European cases (one from the United Kingdom, one from France, and nine from Spain). The discussion begins with a literature review followed by an explanation of the study methodology. The paper then describes the seventeen cases in detail before presenting analytical findings. The final section offers a summary of these findings with concluding remarks.

1. Literature review

Bankruptcy frameworks across countries are distinct from each other but can systematically be grouped in at least two categories: according to their legal origins and whether they favor creditors or debtors. The terms “legal origins” and/or “legal traditions,” refer to legal system groupings reflecting common historical developments, legal thinking, institutions, acknowledged legal sources, and ideologies (Zweigert and Kӧtz 1998, 68). Common law, found in England and its colonies (U.S. Canada, Australia, India, South Africa, etc.), and civil law, found in France and its sphere of influence (Luxembourg, Portugal, Spain, some Swiss cantons, and associated Latin American colonies), represent the two major legal origins (La Porta et al. 2008).

Compared to civil law, common law involves less formal judicial procedures (Djankov et al. 2003) and more judicial independence (La Porta et al. 2004). These judicial attributes, in turn, support stronger contract enforcement and property right security (La Porta et al. 2008, 286). Empirical evidence from common law countries shows higher shareholder and creditor protection, more efficient debt enforcement, and less government bank ownership compared to civil law countries (La Porta et al. 2008, 294; Beck et al. 2003, 672). Damaska (1986) describes common law as “dispute resolving” and civil law as “policy-implementing”; in the former attention is placed on solving the conflict between the parties in the concrete case at hand, while in the latter the case is used as a way to implement particular government policies.

Legal Origin Theory predicts that different economic outcomes derive, in part, from different legal institutions. In this case, different bankruptcy frameworks reflect each country’s legal origins. Using these historical narratives and empirical studies, one may expect certain patterns regarding the differences in bankruptcy frameworks across countries. The first holds that common law prefers private-market outcomes whereas civil law pursues to replace private outcomes with state-desired outcomes (La Porta et al. 2008, 286). The second holds that countries with different legal origins differ in their ability to adjust efficiently to changing socioeconomic conditions. Empirical evidence in Beck et al. (2003), for instance, finds that common law countries adapt more readily than civil law countries given judges’ greater discretion and efficiency is achieved through the process which inefficient laws can be challenged until they are replaced by more efficient laws. From this, we may expect a higher proportion of bankruptcy cases going through private-debt restructuring with low or no involvement of government in common law countries compared to civil law ones. We also expect higher level of adaptability to changing socioeconomic conditions in common law countries compared to civil law ones. In the bankruptcy context, we expect to observe a higher degree of adaptability to various bankruptcy contexts in common law countries.

However, European bankruptcy statues share similarities across civil- and common-law frameworks. In contrast to the U.S., European bankruptcy laws historically aimed to protect creditors through firm liquidation and rapid repayment, rather than save distressed firms and/or protect publically guaranteed debt (White, 1996). After legal reform processes began in Britain and France during the mid-1980s however, bankruptcy laws have begun to converge, across Europe, to those of the U.S. bankruptcy framework. If Europeans rely on these recent legal reforms, continued P3 operation and debt restructuring may become more common, diminishing risks for public agencies.

1. Methodology

Before proceeding to link economic outcomes with bankruptcy legislation we need to clarify some terms. A firm goes into default when it is unable to continue paying its debt service, the interest and capital payments. It is important to differentiate between a liquidity and an insolvency situation. The former is when the firm has a profitable operation but may not have, in the short-term, the cash to pay its debts; the latter occurs when an unprofitable firm has reached a point where its assets are insufficient to pay back the debt. While a liquidity problem may be solved through additional debt, an insolvency problem is not solved through additional debt. The firm and its creditors need to negotiate how the losses will affect all the parties involved, and if no agreement is reached then, either the firm or the creditors go to court to proceed with the bankruptcy. The firm may look to reach a court-approved debt restructuring plan with its creditors in order to continue with the operations of the company. If no agreement is reached, or if the creditors have gone to court before the firm has filed for bankruptcy, then what follows is the liquidation of the firm: the assets are sold to pay back to the creditor.

The Public Works Financing Database provided the primary data source for identifying P3 projects with bankruptcy filings. Given the paper’s focus on US and European cases, the research first employed the database to identify the eleven European countries with the largest total investments in transportation P3 projects— Austria, Belgium, Germany, Greece, Ireland, Italy, Netherlands, Poland, Portugal, Spain, and United Kingdom. Keyword searches for terms including "bankruptcy," "insolvency," and "safeguard" then identified potential cases in these countries and the U.S. Cases including the term “default” received additional review to identify those with subsequent bankruptcies. No time limit was used for the search, given how relatively new P3s are. The current exploratory analysis does not include default cases without bankruptcies, leaving this stage unexplored.

Having assembled a preliminary list of bankruptcy cases, a second search compiled detailed information on each case from academic papers, newspaper articles, financial reports, and court cases. In addition to producing project histories, the research collected information on project characteristics (Table 1), bankruptcy legal processes (Table 2), and bankruptcy causes and consequences (Table 3). The secondary search also identified additional Spanish projects not revealed in the preliminary search, removed Portugal cases (as a series of defaults did not go into bankruptcy), and adjusted the Eurotunnel´s responsible country from the UK to France (it has offices in both places, but the bankruptcy procedure was more advantageous in France). Of the eleven European sample countries, three had P3 projects with bankruptcy filings: the United Kingdom, France, and Spain. Of the thirteen American states with highway P3 projects, six states had P3 projects with bankruptcy filings: Texas, South Carolina, Nevada, California, Alabama, and Indiana. The earliest P3 bankruptcy case in this study is the Camino Colombia Bypass bankruptcy in 2004; the latest case is the Indiana Toll Road bankruptcy in 2014.

1. CASE STUDIES

The following section describes the seventeen surface transportation P3 projects with bankruptcy filings in the U.S. and Europe, which took place from 2004 to 2014. The U.S. experienced six project bankruptcies between 2004 and 2014. In contrast, France and the United Kingdom each experienced one case, in 2006 and 2007 respectively. Spain experienced nine bankruptcies between 2012 and 2013, although they appear in only two court cases. A single court case will likely address eight of the projects together, with the ninth, the AP-36 Ocaña-La Roda project, handled separately.

## **United States**

The **Camino-Colombia Bypass**, a $90 million, 21-mile Texas toll road built under a Design-Build-Finance-Operate-Maintain (DBFOM) contract, provided the U.S.’s first P3 bankruptcy. The roadway opened in 2000, but went bankrupt in 2004 when demand failed to reach expectations and competing facility improvements became available, bringing revenues to only 5.6% of original projections (Samuel, 2003). The project went into foreclosure under Texas Property Code Title 5, and John Hancock Life Insurance bought, in January 2014, the project at auction for $12 million, outbidding the Texas Department of Transportation (TxDOT) by $0.9 million. John Hancock Life Insurance then closed the road and negotiated, in May 2014, a $20 million sale with TxDOT.

The five subsequent cases share several characteristics. First, each used the U.S. Bankruptcy Code to negotiate among its parties to restructure its debt, subject to court approval. Projects completed through municipalities, political subdivisions, or state agencies, fall under Code Chapter 9; otherwise, Code Chapter 11 is used. Second, bankruptcy procedures did not disrupt service provision in these cases, removing public access concerns from potential opportunism from creditors acquiring the facilities through foreclosures. Third, each bankruptcy occurred after the Great Recession, falling victim to its accumulated effects in their regions.

**Southern Connector**, a 16-mile South Carolina toll road, was financed through $200.2 million in tax-exempt bonds in an effort to reduce the project’s financial costs. To do this, the SPV was established as a not-for-profit, a 63-20 corporation. The project opened in 2001 but filed for bankruptcy in 2010 under U.S. Bankruptcy Code Chapter 9. Projected demand had failed to materialize – only 28.6% and 41% of 2001 and 2009 estimates respectively – and bondholders and government officials, lacking equity stakes, had failed to assess the not-for-profit corporation’s project risks properly (Samuel, Jan. 21, 2010). At the time of the bankruptcy filing, due to accumulated deficits over the previous years, claims against Southern Connector included $237.8 million to the U.S. Bank National Association (the bond trustee), $90.9 million to HSBC Bank USA (standby co-trustee), $10.4 million to the South Carolina Department of Transportation, and over $9 million to others (U.S. Bankruptcy Court District of South Carolina., 2011). The court approved a debt-restructuring plan in 2012 where a new $150 million bond issue replaced the original $200.2 million in bonds. After debt was restructured, tolls were increased.

**Las Vegas Monorail**, a 3.9-mile elevated monorail in Nevada, also involved a non-profit Special Purpose Vehicle, financing the project without equity through $649 million in tax-exempt bonds. The 1st Tier Series 2000 bonds, totaling $451 million, were insured. By 2009, the facility had accumulated a $295 million deficit, filing for bankruptcy the following year. Like Southern Connector, low demand (<50% of ridership projections) and poor risk assessments by bondholders and government officials drove the bankruptcy. The project also experienced substantial cost overruns reaching at least 62% of original estimates. Unlike Southern Connector however, the courts considered the special purpose vehicle separate from the municipal and state governments, bringing the case under U.S. Bankruptcy Code Chapter 11 (Green, 2010). The bond issuer preferred Chapter 9 to Chapter 11 since it would have provided more negotiation flexibility, potentially increasing bondholder repayment. After several reorganization efforts, Las Vegas Monorail exited bankruptcy in May 2012 with the sixth proposal. The 1st Tier bondholders received a new bond issue valued at $13 million (2.8% of their original $451.4 million claim), with a 5.5% interest rate until maturity in 2055 (down from the original 6% bond yield). The remaining bondholders, owed $207.2 million, received nothing.

The remaining cases also filed under U.S. Bankruptcy Code Chapter 11.

**South Bay Expressway**, a 9.2-mile California toll road, involved a DBFOM contract and opened in 2007. By the time the project filed for bankruptcy in 2010, the original $400 million cost estimate had increased to $635 million following environmental interest group and community opposition and resulting permitting problems. Regulatory opposition came from: the U.S. Fish and Wildlife Service, the Army Corps of Engineers, and the U.S. Environmental Protection Agency. Lawsuits came from different groups: Professional Engineers in California Government (on public sector jobs), Preserve South Bay (on public parkland), Sierra Club and San Diego Audubon Society (on endangered species), and national Enterprises, Inc. (on California Environmental Quality Act). Complex designs resulting from environmental concerns also generated delays and litigation. Additionally, the project opened just as the subprime mortgage crisis hit the region. Upon entering bankruptcy, South Bay Expressway possessed $130 million in equity but owed $170 million in a Transportation Infrastructure Finance and Innovation Act (TIFIA) program loan and $361.4 million to bank creditors. Upon exiting Chapter 11 in 2011, the project owed the TIFIA program $99 million and the banks $210 million. While the TIFIA loan was not considered senior debt under normal circumstances, in the case of bankruptcy, the loan had a “springing lien” clause treating the federal loan as “senior debt” so it was treated as other senior debt during bankruptcy procedures. A few months later, the San Diego Association of Governments (SANDAG) bought South Bay Expressway, paying $247.5 million to the banks, recognizing $93 million in TIFIA debt, and converting the remaining $6 million in TIFIA debt into project stock.

Alabama’s **Foley Beach Expressway**, a tolled 1-mile bridge and 0.5-mile road, opened in 2010 before filing for bankruptcy in 2013. While the project showed lower demand than projected and suffered from the Great Recession, the concessionaire, American Roads LLC (DBFOM contract) filed for bankruptcy when its broader concession portfolio (Foley Beach Expressway, three additional Alabama facilities, and one Detroit facility) faced financial troubles, particularly after Detroit city filed for bankruptcy in July 2013. The concessionaire exited bankruptcy later that year, after its debt-restructuring plan paid eight creditors and shifted American Roads LLC´s assets to the ninth, Syncora Guarantee Inc., who charged the concessionaire with fraud in its traffic and revenue studies (Samuel, 2013).

Finally, Indiana awarded maintenance, operation, and toll collection rights for the **Indiana Toll Road** to ITR Concession Co. LLC in 2006 for $3.8 billion, with $760 million in equity. The contract included highway operations and maintenance (O&M) on the existing 157-mile toll road, with additional lane construction added along ten existing road miles. However, problems with electronic tolling and declining demand led to several renegotiations. In addition, interest rate swaps, purchased according to the bank financing agreement to protect against interest rate hikes, increased the debt burden by $2 billion when interest rates dropped. Together these factors forced the project into Chapter 11 bankruptcy in 2014. The debt restructuring plan was approved in October 2014 and, as part of the plan, the company was sold (Palank, 2014). In May 2015 the courts allowed IFM Investors to buy the project for $5.72 billion, giving banks 95% of the face value of the debt (Fitzgerald, 2015).

## **France**

The 31-mile **Channel Tunnel** connecting England and France (passenger rail, freight rail, and car shuttle train) opened to the public in 1994 through a concession with Eurotunnel. The project filed for bankruptcy in the Paris Commercial Court in July 2006 due to cost overruns (estimated cost rising from $10 billion to $17.5 billion) and lower than projected demand following growing competition from ferry operators and cheap flights (BBC, 2005).

Months before Eurotunnel filed for bankruptcy, France approved, in January 2006, its insolvency law (Law No. 2005-845), likened to U.S. Chapter 11 (BBC, July 13, 2006). Lacking lender agreement, the Paris Commercial Court protected Eurotunnel from liquidation, eventually approving a debt-restructuring plan. The final deal transferred 87% ownership to lenders in exchange for halving the debt from $12.2 billion to $3.9 billion.

## **United Kingdom**

The United Kingdom’s P3 bankruptcy case, **London Underground Infrastructure**, involved a concession with Metronet Rail to finance, maintain, and upgrade four tube lines and five sub-surface lines of the London metro. In contrast to the other study cases, this project included a performance-based contract linking the concessionaire´s revenues to completion milestones and delivery quality. However, poor corporate governance and leadership (Jetuah, 2009), incomplete contracts and insufficient data availability (Stewart, 2007) hampered cost and quality comparisons and generated conflict.

Ultimately, deficient management, cost overruns, and backlogs led Metronet Rail to file for bankruptcy under the U.K. Insolvency Act of 1986 in the High Court of Justice in 2007. Its special purpose financing vehicle had encountered governance problems as each consortium member fought for its interests at the expense of the project’s overall welfare. Ernst and Young was nominated as receiver to handle the company’s administration. Following the P3 contract, which established a debt guarantee of 95% of the debt, Transport for London, the public agency responsible for the P3, took, in 2008, the responsibility to pay $3.1 billion.

## **Spain**

Between 2012 and 2013, nine highway P3 projects in Spain went bankrupt: A-70 Circunvalación de Alicante; AP-7 Alicante Cartagena; AP-7 Cartagena Vera; AP-36 Ocaña-la Roda; AP-41 Madrid-Toledo; Radial 2 Madrid-Guadalajara; Radial 3 Madrid-Arganda and Radial 5 Madrid-Navalcarnero (same contract but different highways); Radial 4 Madrid-Ocaña; and M12 Eje Aeropuerto. The projects, including 442 miles of toll roads and 99 miles of free roads, cost $6,945 million and started operations between 2001 and 2007.

The projects went bankrupt for three reasons (Pérez, 2012; Romero, 2013; Bolaños, 2015; El País, 2015). First, demand failed to reach projections, particularly when the Great Recession burst the country’s housing bubble and generated high unemployment. Second, the projects weathered significant cost overruns as legal procedures inflated land acquisition costs several times above original projections. Third, some projects faced growing competition from free, adjacent roads.

The bankruptcies directly affected the Spanish government, which had included debt guarantees in each contractual agreement totaling $3.5 billion dollars (Table 4). The Spanish government, looking to decrease this pecuniary responsibility, first, offered loans for $1,195 million to the road concessionaires (Romeo, 2013). As problems continued, it passed reforms under Bankruptcy Law 2014 (Law 22/2003), avoiding pressure from foreign banks for debt payment (Romero, 2014). The legal reform introduced debt restructuring procedures similar to the American Chapter 11. Once it the reform was approved, the Spanish government grouped the projects into a single court case in the Madrid Commercial Court #6, where debt restructuring is expected to occur (Galindo & Romero, 2014). As of September 2015, the Court has rejected several proposals made by the Spanish government to restructure the debt (El País, 2015). In addition, the Toledo Commercial Court #1 judge rejected the AP-41 Madrid-Toledo project’s participation in the debt restructuring plan and ordered its liquidation (La Tribuna de Toledo, 2015, Feb. 27).

1. Analysis

In the cases under analysis, the legal origin approach appears to provide no adequate prediction for bankruptcies. As convergence across the Atlantic has increased (towards the American standard), the common-law and civil law approaches appear to provide no clear difference. This is shown in the U.S. (common law) and French (civil law) cases, were debt restructuring was in placed and no debt guarantee was paid, nor bailout. In the U.K. (common law) and Spanish (civil law) cases, there were debt guarantees in place. While in the Spanish situation the cases are still in court, the government had already bailed out the projects in the past, as it had given them over $1 billion loans before they filed for bankruptcy.

What similarities and differences exist between the U.S. and European highway P3 bankruptcies? Demand overestimation, particularly following the Great Recession, provides the first common theme on both continents. The London Underground Infrastructure project, with its mismanaged maintenance and upgrade performance contract, offers the only case without demand overestimation problems. The cases also share a common filing period, 2004 through 2014, characterized by low interest rates and low capital costs.

Creditor compensation, in contrast, demonstrates differences across countries. The U.K. government, for example, compensated creditors, as will Spain’s, although how much remains under discussion. France, on the other hand, employed a new safeguard procedure equivalent to U.S. Chapter 11. Government entities generally did not compensate creditors in the U.S. cases. In the Camino-Colombia Bypass case, the Texas Department of Transportation (TxDOT) did buy the project to ensure public road access, but the project represents the country’s first P3 bankruptcy and the only one experiencing foreclosure. The South Bay Expressway also affected the public sector through the federal TIFIA loan program, but the loan’s “springing lien” clause treating the federal loan as “senior debt” protected it somewhat in the debt-restructuring plan. Several other cases offered unique challenges, including the Indiana Toll Road’s ill-fated interest rate swaps and the peculiarities of Spain’s legal procedures.

Did bankruptcy legal frameworks influence the cases’ public-sector outcomes? Foreclosure frameworks might favor opportunistic behavior by creditors against the public sector, but government debt guarantees may generate self-enforcing range mechanisms (Klein, 1996) diminishing incentives for such creditor opportunism: if a high proportion of the debt is guaranteed, creditors have fewer incentives to behave opportunistically and attempt to get a bailout. However, such guarantees can encourage private-sector opportunism by lowering incentives for conservative demand forecasts (Domingues and Zelatkovic, 2014). Government debt guarantees figured into the U.K., Spain, and Texas cases, but not the others. In the United States, creditors clearly behaved differently in the Camino-Colombia Bypass case under Texas foreclosure law, compared to the five bankruptcies filed under the U.S. Bankruptcy Code. The European comparison offers less conclusive findings. France used similar statutes to U.S. Chapter 11, as will Spain, but these statutes remain relatively new in the European market, passed concurrently with the case projects’ financial distress. The U.K. lacks equivalent statutes, partly explaining why Eurotunnel took its case to French courts rather than British ones (Gladel and Le Guernevé, 2009). The U.K. case demonstrated no creditor opportunism despite facing foreclosure, in contrast to the Camino-Colombia experience. Nevertheless, the British creditors obtained 95% of their investment; Camino-Colombia investors received much less, near to 20%, suggesting a range in which private opportunism might be attractive.

A final element to analyze is why subsequent experiences to Camino-Colombia have not used foreclosure. A hypothesis is that the SPV managers want to protect their jobs and those of the team in the company.  There is no chance for this under foreclosure. Moreover, managers may want to protect future job opportunities, so leading a company through a debt restructuring procedure may be considered more attractive to future employers than having faced a foreclosure.

1. CONCLUSIONs

The preceding discussion explored bankruptcy legal frameworks as an explanation for perceived differences in U.S. surface transportation P3 outcomes compared to the European market. Through six U.S. and eleven European P3 bankruptcy cases, the study provides some evidence that the U.S. legal framework, particularly Chapter 11 of the U.S. Bankruptcy Code, favors continuous operation through debt restructuring rather than asset liquidation. The only U.S. case to employ foreclosure, the Camino-Colombia Bypass, also involved facility closures and the facility’s purchase by the Texas Department of Transportation. The other U.S. cases, filed under Chapters 9 and 11 did not involve facility closures pressuring the public sector to intervene.

The case studies also highlight how European countries, particularly France and Spain, have adopted new legal frameworks mimicking U.S. Chapter 11 promoting debt-restructuring procedures to diminish the fiscal impacts associated with asset liquidation. Governments implementing Chapter 11-like frameworks should reevaluate their debt guarantee policies carefully following the British and Spanish experiences, to minimize opportunities for creditor opportunism. Further analyses should consider the Latin American experience and P3 defaults to increase the number cases and explore their legal influences and incentives. Given the relevance that government debt guarantee had in the UK and Spanish cases, and the role of interest rate swaps in the Indiana Toll Road, further research should be done on the financial arrangements of bankrupt projects.

ACKNOWLEDGEMENTS

This paper’s research and writing was supported by the George Mason University Center for Transportation Public-Private Partnership Policy. The Center receives support from George Mason University, the Virginia Secretary of Transportation, and private donors. Morghan Transue substantially edited the manuscript.

REFERENCES

Albalate, D., Bel, G. & Bel-Piñana P. (2015). Tropezando dos veces con la misma piedra: quiebra de autopistas de peaje y costes para contribuyentes y usuarios. *Revista de Economía Aplicada*, 23, 131-152. Retrieved from <http://www.revecap.com/revista/aceptados/albalate_bel_bel.pdf> Accessed: September 06, 2015

Ashurst (2009, February). French insolvency law: main safeguard innovations. Retrieved from <https://www.ashurst.com/doc.aspx?id_Content=4229> Accessed: September 05, 2015

Bathon, M. (2014, September 22). Indiana Toll Road Seeks Bankruptcy as Traffic Declines. *Bloomberg*. Retrieved from <http://www.bloomberg.com/news/articles/2014-09-22/indiana-toll-road-seeks-bankruptcy-as-traffic-declines> Accessed: September 03, 2015

Baxandall, P., Wohlschlegel K. & Dutzik. T. (2009). *Private roads, private costs: The facts about toll road privatization and how to protect the public.* U.S. PIRG Education Fund

BBC (2005, October 19). Low fares battle hits Eurotunnel. *BBC*. <http://news.bbc.co.uk/2/hi/business/4356168.stm> Accessed: September 05, 2015

BBC (2006, August 02). Eurotunnel gets court protection. *BBC*. <http://news.bbc.co.uk/2/hi/business/5237000.stm> Accessed: September 05, 2015

BBC (2006, July 13). Insolvency warning at Eurotunnel. *BBC*. <http://news.bbc.co.uk/2/hi/business/5175188.stm> Accessed: September 05, 2015

BBC (2007, July 18). Metronet calls in administrators. *BBC*. <http://news.bbc.co.uk/2/hi/business/6903977.stm> Accessed: September 05, 2015

BBC (2007, May 25). Eurotunnel ´saved´ by investors. *BBC*. <http://news.bbc.co.uk/2/hi/business/6693897.stm> Accessed: September 05, 2015

BBC (2008, February 06). Metronet costs taxpayers £1.7bn. *BBC*. Retrieved from <http://news.bbc.co.uk/2/hi/uk_news/england/london/7230893.stm> Accessed: September 05, 2015

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2003). Law and finance: why does legal origin matter?. *Journal of comparative economics*, *31*(4), 653-675.

Benman, K. (2014, December 27). When good toll roads go bad. *The Times*. Retrieved from <http://www.nwitimes.com/business/transportation/when-good-toll-roads-go-bad/article_cfb056e1-87af-561a-934a-a67b900d9962.html> Accessed: September 04, 2015

Benman, K. (2014, June 18). Indiana monitors Toll Road operators’ financial troubles. *The Times of Northwest Indiana*. Retrieved from <http://www.nwitimes.com/business/local/indiana-monitors-toll-road-operators-financial-troubles/article_3f17f962-8d30-50dd-ab97-3abd27861553.html> Accessed: September 10, 2015

Benman, K. (2014, March 31). Reports: Indiana Toll Road again facing debt problem. *The Times*. Retrieved from <http://www.nwitimes.com/business/local/reports-indiana-toll-road-again-facing-debt-problems/article_975bf7dc-ddc8-56f1-a184-0c3187fb31fc.html> Accessed: September 04, 2015

Bolaños, A. (2015, March 24). El Supremo rechaza compensar por falta de tráfico a autopista de peaje. *El País*. Retrieved from <http://economia.elpais.com/economia/2015/03/24/actualidad/1427203176_143966.html> Accessed: September 05, 2015

Bravo, J.A. (2014, October 27). La madeja de las autopistas de peaje sigue sin desenredarse. *Finanzas*. Retrieved from <http://www.finanzas.com/noticias/economia/20141027/madeja-autopistas-peaje-sigue-2790132.html> Accessed: September 06, 2015

Cary, N. (2014, February 19). Greenville toll road on more solid financial ground. *The State*. Retrieved from <http://www.thestate.com/news/business/article13838624.html> Accessed: September 04, 2015

Cirmizi, E., Klapper, L., & Uttamchandani, M. (2011). The challenges of bankruptcy reform. *The World Bank Research Observer*, lkr012.

Clark, N. (2007, January 15). French court approves Eurotunnel restructuring. *New York Times*. Retrieved from <http://www.nytimes.com/2007/01/15/business/worldbusiness/15iht-tunnel.4211789.html?_r=0> Accessed: September 05, 2015

Damaska, M. R. (1986). *The faces of justice and state authority: a comparative approach to the legal process*. New Haven and London: Yale University Press.

Diario Información (2013, August 10). La concesionaria de la circunvalación Alicante entra en concurso de acreedores. *Diario Información*. Retrieved from <http://www.diarioinformacion.com/alicante/2013/08/10/concesionaria-circunvalacion-alicante-entra/1404504.html> Accessed: September 07, 2015

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2003). Courts. *The Quarterly Journal of Economics*, 453-517.

Domingues, S. & Zlatkovic, D. (2014). Renegotiating PPP Contracts: Reinforcing the ´P´ in Partnership. *Transport Reviews*. 35(2), 204-225.

El Diario (2012, October 19). La autopista de peaje Ocaña-La Roda solicita el concurso de acreedores. Retrieved from <http://www.eldiario.es/canariasahora/economia/autopista-Ocana-La-Roda-concurso-acreedores_0_59844755.html> Accessed: September 06, 2015

El País (2013, February 04). La Cartagena-Vera, en concurso de acreedores con una deuda millonaria. *El País*. Retrieved from <http://economia.elpais.com/economia/2013/02/04/actualidad/1359992354_014352.html> Accessed: September 06, 2015

El País (2015, February 26). Dos jueces rechazan el acuerdo de rescate de las autopistas quebradas*. El País*. Retrieved from <http://economia.elpais.com/economia/2015/02/26/actualidad/1424964488_235071.html> Accessed: September 05, 2015

Europa Press (2013, September 17). La autopista radial R-2 de Madrid, en concurso de acreedores con una deuda de unos 450 millones. *Europa Press*. Retrieved from <http://www.europapress.es/turismo/transportes/noticia-autopista-radial-madrid-concurso-acreedores-deuda-450-millones-20130917142109.html> Accessed: September 05, 2015

Europa Press (2015, April 12). OHL eleva al Supremo sus reclamaciones por la quiebra de la autopista Eje Aeropuerto. *Europa Press*. Retrieved from <http://www.europapress.es/economia/noticia-ohl-eleva-supremo-reclamaciones-quiebra-autopista-eje-aeropuerto-20150412121332.html> Accessed: September 05, 2015

European Investment Bank (2003, July 23). Spain: EUR 300 million for R-3, R-5 and M-50 motorways. *European Investment Bank*. Retrieved from <http://www.eib.org/infocentre/press/releases/all/2003/2003-086-eur-300-mio-for-motorways-in-spain.htm> Accessed: September 05, 2015

Eurotunnel (2006, August 2). Eurotunnel obtains protection from Paris Commercial Court. Retrieved from <http://www.eurotunnelgroup.com/WorkArea/DownloadAsset.aspx?id=3842> Accessed: September 05, 2015

Eurotunnel (2006, August 2). *Paris Commercial Court Approves Eurotunnel Safeguard Plan*. Retrieved from <http://www.eurotunnelgroup.com/WorkArea/DownloadAsset.aspx?id=3842> Accessed: September 05, 2015

Federal Highway Administration (2015). *Project Profiles*. Retrieved from <http://www.fhwa.dot.gov/ipd/p3/project_profiles/> Accessed: September 03, 2015

Fitzgerald, P. (2015, May 29). Indiana Toll Road Exists Bankruptcy Protection. *Wall Street Journal*. Retrieved from <http://www.wsj.com/articles/indiana-toll-road-exits-bankruptcy-protection-1432907793> Accessed: September 10, 2015

Fukuyama, F. (2014). *Political order and political decay: from the industrial revolution to the globalization of democracy*. New York: Farrar, Straus and Giroux.

Galindo, C. & Romero, A. (2014, March 25). El gobierno ofrece rescatar las autopistas con una quita del 50% de la deuda. *El País*. <http://economia.elpais.com/economia/2014/03/25/actualidad/1395753248_296848.html> Accessed: September 05, 2015

Gifford, J, Bolaños, L., & Daito, N. (2014). Renegotiation of transportation public-private partnerships: The US experience. *International Transport Forum Discussion Paper*.

Gifford, J. & Bolaños, L. (2015). Risks behind the South Bay Expressway Bankruptcy. Mimeo

Gifford, J. & Bolaños, L. (2015). The Las Vegas Monorail Bankruptcy: opportunism in Public-Private Partnerships. Mimeo

Gladel, V. & Le Guernevé, L. (2009). The Eurotunnel Safeguard Proceedings. Washington Symposium May, 11th-12th 2009 “Continental law and the Global Financial Crisis: Contributions towards a better regulation. Presentation. Retrieved from <http://www.fondation-droitcontinental.org/fr/wp-content/uploads/2013/12/the_eurotunnel_safeguard_proceedings.pdf> Accessed: September 11, 2015

Green, S. (2010, April 26). Las Vegas Monorail bond insurer loses key ruling. *Las Vegas Sun*. Retrieved from <http://lasvegassun.com/news/2010/apr/26/judge-monorail-cant-get-chapter-9-bankruptcy-prote/> Accessed: September 09, 2015

Hasselgrenx, B., Makovsek, D., & Perkins, S. (2014). Public Private Partnerships for Transport Infrastructure: Renegotiations, How to Approach Them and Economic Outcomes Roundtable Summary and Conclusions.

Hayek, Friedrich A. (1960). *The Constitution of Liberty*. Chicago: University of Chicago Press.

Institutional Investor (2003, April 08). Metronet´s £1.03bn Underground Bond Dispels Memories of Railtrack Collapse. *Institutional Investor*. Retrieved from <http://www.institutionalinvestor.com/Article/1034882/3252823/Research-and-Rankings/Investors-Are-Keeping-a-Close-Eye-on-the-Fed.html#.Ves9vhFViko> Accessed: September 05, 2015

Jetuah, D. (2009, June 05). E&Y paid £33m for Metronet administration. *AccountancyAge.* Retrieved from <http://www.accountancyage.com/aa/news/1769042/e-y-paid-gbp33m-metronet-administration> Accessed: September 05, 2015

Kile, J. (2015, June 18), *Testimony: The status of the Highway Trust Fund and options for paying for highway spending*, Congressional Budget Office.

Kile, J. (2015, June 18). *Testimony: The status of the Highway Trust Fund and options for paying for highway spending*, Congressional Budget Office.

La Opinión de Murcia (2013, August 26). La autopista fantasma Alicante-Cartagena. L*a Opinión de Murcia*. Retrieved from <http://www.laopiniondemurcia.es/comunidad/2013/08/27/autopista-fantasma-alicante-cartagena/493635.html> Accessed: September 06, 2015

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The economic consequences of legal origins. *Journal of Economic Literature*, *46*(2), 285-332.

La Porta, R., Lopez-de-Silanes, F., Pop-Eleches, C., & Shleifer, A. (2004). Judicial Checks and Balances. *Journal of Political Economy*, *112*(2), 445-470.

La Tribuna de Toledo (2015, February 18). Un juzgado de Madrid inicia el proceso para asumir la quiebra de la AP-41. *La Tribuna de Toledo.* Retrieved from <http://www.latribunadetoledo.es/noticia/ZF78E55FB-0B42-FB7D-EE7BDC62B5DBA1C5/20150218/juzgado/madrid/inicia/proceso/asumir/quiebra/ap41> Accessed: September 05, 2015

La Tribuna de Toledo (2015, February 27). Un juzgado ordena liquidar la AP-36 y rechaza su rescate por Fomento. *La Tribuna de Toledo*. Retrieved from <http://www.latribunadetoledo.es/noticia/ZC5F4AE95-F26B-2AEF-80686E7418C65655/20150227/juzgado/ordena/liquidar/ap-/rechaza/rescate/fomento> Accessed: September 06, 2015

Levante El Mercantil Valenciano (2013, February 09) La caída de tráfico en la AP-7 Alicante-Cartagena pone en riesgo su viabilidad. Retrieved from <http://www.levante-emv.com/economia/2013/02/09/caida-trafico-ap-7-alicante-cartagena-pone-riesgo-viabilidad/973021.html> Accessed: September 06, 2015

Miguel Silva, N. (2012, September 11). Concessionárias de auto-estradas em situação de falencia. *Económico*. Retrieved from <http://economico.sapo.pt/noticias/concessionarias-de-autoestradas-em-situacao-de-falencia_151491.html> Accessed: September 07, 2015

Miller, S. (2010, June 25). Upstate toll road developer losing $20 a year. Charle*ston Regional Business Journal*. Retrieved from <http://www.charlestonbusiness.com/news/34829> Accessed: September 10, 2015

Navas, J. A. (2015, April 06) La liquidación de las autopistas costará este año 600 millones a los españoles. *El Confidencial*. Retrieved from <http://www.elconfidencial.com/empresas/2015-04-06/la-liquidacion-de-las-autopistas-costara-este-ano-de-entrada-600-millones-a-los-espanoles_752415/> Accessed: September 06, 2015

Navas, J. A. (2015, July 16). El Gobierno busca un atajo para no cargar con el ´agujero´ de las autopistas en quiebra. *El Confidencial.* Retrieved from <http://www.elconfidencial.com/empresas/2015-07-16/el-gobierno-busca-un-atajo-para-no-cargar-con-el-agujero-de-las-autopistas-en-quiebra_928407> Accessed: September 06, 2015

O´Reily, T. (2012, May 09). Las Vegas Monorail gets OK to exit bankruptcy. *Las Vegas Review Journal*. Retrieved from <http://www.reviewjournal.com/business/economy/las-vegas-monorail-gets-ok-exit-bankruptcy> Accessed: September 04, 2015

Palank, J. (2014, October 28). Judge approves Indiana Toll Road Bankruptcy-Exit Plan. *Wall Street Journal*. Retrieved from <http://www.wsj.com/articles/judge-approves-indiana-toll-road-bankruptcy-exit-plan-1414516051> Accessed: September 10, 2015

Pérez, C. (2012, November 11). Las autopistas de peaje derrapan y pierden el control de sus deudas. *Corporación de Radio y Televisión Española*. Retrieved from <http://www.rtve.es/noticias/20121111/autopistas-peaje-derrapan-pierden-control-deudas/571678.shtml> Accessed: September 05, 2015

Perlman, M. and Pulidindi, J. (2012). *Public-Private Partnerships for Transportation Projects*. National League of Cities. Retrieved from <http://www.nlc.org/documents/Find%20City%20Solutions/Research%20Innovation/Infrastructure/public-private-partnerships-for-transportation-projects-mag-may12.pdf> Accessed: September 03, 2015

Poole, R. W. (2011, October). U.S. Still an Emergent Market for Highway Concessions. *Public Works Financing*. Retrieved from <http://www.pwfinance.net/document/October_2011_vNov202011.pdf> Accessed: September 04, 2015

Public Works Financing (2013 , January). U.S. & Canadian Transportation Projects Scorecard. Retrieved from <http://www.pwfinance.net/document/research_reprints/chart%201%20US-Canada.pdf> Accessed: September 03, 2015

Public Works Financing (2015). Project Database. Retrieved from <http://pwfinance.net/projects-database/> Accessed: September 03, 2015

Randall, J. (2005, June 13). How Eurotunnel went so wrong. *BBC*. Retrieved from <http://news.bbc.co.uk/2/hi/business/4088868.stm> Accessed: September 05, 2015

Reinhardt, W. G. (2015, May) Indiana Toll Road Lease Now Worth $5.7 Billion to Pension Fund Investors. *Public Works Financing*, 304, 4–5.

Ridao Martín, J. & García Martínez, A. (2013). La precaria viabilidad de determinadas concesiones de autopistas de peaje en España. Lecciones estructurales para el modelo de colaboración público-privada y una propuesta de solución coyuntural. *Revista Andaluza de Administración Pública*, 87, 95-135. Retrieved from [http://www.juntadeandalucia.es/institutodeadministracionpublica/aplicaciones/boletin/publico/boletin62/Articulos\_62/Ridao-Martin\_Garcia-Martinez(RAAP\_87).pdf](http://www.juntadeandalucia.es/institutodeadministracionpublica/aplicaciones/boletin/publico/boletin62/Articulos_62/Ridao-Martin_Garcia-Martinez%28RAAP_87%29.pdf) Accessed: September 06, 2015

Romero, Á. (2014, July 23). El Gobierno ultima el acuerdo con la banca para rescatar las autopistas de peaje. *El País*. <http://economia.elpais.com/economia/2014/07/23/actualidad/1406116111_667296.html> Accessed: September 05, 2015

Romero, Á. (2014, October 17). El gobierno lanza el rescate de las autopistas con una quita del 50%. *El País*. Retrieved from <http://economia.elpais.com/economia/2014/10/17/actualidad/1413564817_170585.html> Accessed: September 05, 2015

Romero, Á. (2014, September 22). Autopistas hacia la quiebra. *El País*. Retrieved from <http://economia.elpais.com/economia/2013/09/21/actualidad/1379790507_165001.html> Accessed: September 05, 2015

Samuel, P. (2003, December 26). Lenders foreclose on Camino Colombia tollroad Laredo TX. *Tollroad News*. <http://tollroadsnews.com/news/lenders-foreclose-on-camino-colombia-tollroad-laredo-tx> Accessed: September 04, 2015

Samuel, P. (2004, May 28). TxDOT buys broke Camino-Colombia Pike from Hancock. *Tollroads News*. Retrieved from <http://tollroadsnews.com/news/txdot-buys-broke-camino-colombia-pike-from-hancock> Accessed: September 03, 2015

Samuel, P. (2010, January 21). Greenville Southern Connector SC last of not-for-profit pikes is broke. *Tollroads News*. Retrieved from <http://tollroadsnews.com/news/greenville-southern-connector-sc-last-of-not-for-profit-pikes-is-broke> Accessed: September 10, 2015

Samuel, P. (2010, June 25). Greenville SC Southern Connector toller files for bankruptcy. *Tollroads News*. Retrieved from <http://tollroadsnews.com/news/greenville-sc-southern-connector-toller-files-for-bankruptcy> Accessed: September 04, 2015

Samuel, P. (2013, August 29). American Roads LLC voluntary capital reorganization endorsed by Bankrutpcy Court. *Tollroads News*. Retrieved from <http://tollroadsnews.com/news/american-roads-llc-voluntary-capital-reorganization-endorsed-by-bankruptcy-court> Accessed: September 04, 2015

Secretaría General de Infraestructura, Ministerio de Fomento (2014, March). Informe 2012 sobre el sector de las autopistas de peaje en España. Gobierno de España. Retrieved from <https://www.fomento.gob.es/MFOM.CP.Web/handlers/pdfhandler.ashx?idpub=ICW011> Accessed: September 07, 2015

Secretaría General de Infraestructura, Ministerio de Fomento (2014, March). Informe 2013 sobre el sector de las autopistas de peaje en España. Gobierno de España. <http://www.fomento.gob.es/MFOM.CP.Web/handlers/pdfhandler.ashx?idpub=ICW021> Accessed: September 07, 2015

Sharp, T. (2007, July 18). Metroneto BCV and Metronet SSL apply for PPP administration. *Balfour Beatty*. Retrieved from <http://www.balfourbeatty.com/index.asp?pageid=42&newsid=123> Accessed: September 05, 2015

Sirvent, B. (2013, October 09). Un juez de lo Mercantil ya estudia si liquida la segunda circunvalación de Alicante. *Las Provincias*. Retrieved from <http://www.lasprovincias.es/v/20131009/alicante/juez-mercantil-estudia-liquida-20131009.html> Accessed: September 07, 2015

Southern Connector Tollroad (2015). Bankruptcy filling. Retrieved from <http://www.southernconnector.com/Zbankruptcy.htm> Accessed: September 04, 2015

Stewart, H. (2007, July 22). How Metronet came off the rails –and why investors lost £350m. *The Guardian*. Retrieved from <http://www.theguardian.com/society/2007/jul/22/localgovernment.business> Accessed: September 05, 2015

Tanner, A. K. (2013, August 23). Foley (Alabama) Beach Expressway Toll Bridge Tied up in Bankruptcy. Retrieved from <http://www.bondnbotes.com/2013/08/23/foley-alabama-beach-expressway-toll-bridge-tied-up-in-bankruptcy/> Accessed: September 03, 2015

Temple-West, P. (2011, March 28). Judge Oks Connector Bond Plan. The Bond Buyer. Retrieved from <http://www.bondbuyer.com/issues/120_60/connector_2000_lawsuit-1024917-1.html?ET=bondbuyer:e3144:2205243a>: Accessed: September 04, 2015

The Economist (2007, July 19). Down the tube. *The Economist*. Retrieved from <http://www.economist.com/node/9527113> Accessed: September 04, 2015

U.K. High Court of Justice Chancery Division. Case Nos: 5106 and 5109 of 2007. [Metronet Rail BCV Ltd, Re Insolvency Act 1986 [2007] EWHC 2697 (Ch)](http://www.govopps.co.uk/metronet-rail-bcv-ltd-re-insolvency-act-1986-2007-ewhc-2697-ch/), November 23, 2007. Retrieved from <http://www.govopps.co.uk/metronet-rail-bcv-ltd-re-insolvency-act-1986-2007-ewhc-2697-ch/> Accessed: September 05, 2015

U.S. Bankruptcy Court District of Nevada. “Chapter 11. Case No. BK-S-10-10464-BAM. Opinion on Cash Collateral Motions,” February 17, 2010. Retrieved from <http://www.nvb.uscourts.gov/downloads/opinions/bam-10-10464-las-vegas-monorail-company.pdf> Accessed: September 04, 2015

U.S. Bankruptcy Court District of South Carolina. “Chapter 09. Case No. 10-04467-dd. Connector 2000 Association, Inc., Debtor. Appendix D. Proofs of Claim Filed,” January 17, 2011. Retrieved from <http://www.southernconnector.com/pdfs/Appendix%20D-G%20to%20First%20Amended%20Disclosure%20Statement.PDF> Accessed: September 04, 2015

U.S. Bankruptcy Court Southern District of California. “Chapter 11. Case No. 10-04516-LA11. Declaration of Anthony G. Evans, Chief Financial Officer of South Bay Expressway, L.P., in Support of the Debtor´s Chapter 11 Petitions and First Day Motions.,” March 22, 2010. Retrieved from <http://media.signonsandiego.com/pdf/20100323125bankruptcy3.pdf> Accessed: September 04, 2015

White, M. J. (1996). The costs of corporate bankruptcy: A U.S.-European comparison. In *Corporate Bankruptcy: Economic and legal Perspectives*, 467-500.

Zweigert, K., & Kötz, H. (1998). *Introduction to comparative law* Third edition. Oxford and New York: Oxford University Press, Clarendon Press.

TABLE 1. U.S. and European P3 Projects That Declared Bankruptcy or Foreclosure. General characteristics

| **Project** | **Country or State** | **Contract type** | **Date of Opening** | **Project Final Cost (Millions of dollars)** | **Sources of Original Funding (US$)** | **Original Private Partner – Special Purpose Vehicle** | **Revenues** | **Project physical characteristics** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Camino Colombia Bypass** | TX | DBFOM | 2000 | 90  | Taxable notes: 75 millionEquity & bank loans: 10 million | Baldwin County Bridge Company | Tolls | 21-mile road |
| **Southern Connector** | SC | DBF | 2001 | 191 | Tax-exempt bonds: 200 millionTIFIA loan: 5.3 millionState funding: 17.5 million | Interwest Carolina Transportation Group, LLC.  | Tolls | 16-mile road |
| **Las Vegas Monorail** | NV | DB/Equip+O&M | 2000 | 650 | Tax exempt revenue bond | MGM Grand-Bally's Monorail, LLC | Fare | 3.9-mile elevated dual-guideway monorail |
| **SR125 South Bay Expressway (South Section)** | CA | DBFOM | 2007 | 635 | TIFIA loan: 140 million Right-of-way grants: 48 millionSyndicated bank loan: 400 millionEquity: 130 million | South Bay Expressway, L.P. (SBX LP) | Tolls | 9.2-mile road |
| **Foley Beach Expressway** | AL | DBFOM | 1999 | 44 | Taxable, toll revenue bonds: 36.3 millionFHWA: 7 millionCity of Foley. 0.9 million | Baldwin County Bridge Company | Tolls | 1-mile bridge + 5 mile road |
| **Indiana Toll Road** | IN | DBFOM + OM | 2006 | 3,800 | Syndicated bank loans: 4.1 billionEquity: 760 million | ITR Concession Co. LLC | Tolls | 157-mile road |
| **London Underground infrastructure** | United Kingdom | Concession (Finance and Maintain) | 2003 | 4,816(£2,950) | Loans: 4,245 millionEquity: 571 million | Metronet Rail | Performance based contract | Maintenance and upgrading of 4 tube lines and 5 sub-surface lines |
| **Channel Tunnel** | France | Concession | 1994 | 15,500 | Debt: 5,500 millionShort-term notes: 2,500 million | Eurotunnel | Fare | 31-mile tunnel (freight rail and car shuttle train) connecting England and France.  |
| **A-70 Circunvalación de Alicante** | Spain |  | 2007 | 612(€445) |  | Ciralsa SACE  | Tolls | 21-mile road |
| **AP-7 Alicante-Cartagena** | Spain |  | 2001 | 234(€260) |  | Autopista del Sureste Concesionaria Española de Autopistas, S.A. | Tolls | 48-mile road |
| **AP-7 Cartagena-Vera** | Spain | Concession | 2007 | 779 | Debt: 528 millionEquity: 251 million | Autopista de la Costa Cálida Concesionaria Española de Autopistas, S.A. | Tolls | 71-mile road 3 tunnels |
| **AP-36 Ocaña-La Roda** | Spain | DBFO | 2006 | 806 | Debt: 680 millionEquity: 120 million | Inversora de Autopistas de Levante y Autopista Madrid Levante | Tolls | 73-mile (tolled) road + 37-mile (free) road |
| **AP-41 Madrid-Toledo** | Spain | Concession | 2007 | 720 |  | Autopista Madrid Toledo  | Tolls | 50-mile (tolled) road +13-mile (free) road |
| **Radial 2 Madrid-Guadalajara** | Spain | DBFOM | 2003 | 900 | Debt: 375 millionEquity: 123 million | Autopista del Henares S.A.C.E. | Tolls | 55-mile road |
| **Radial 3 Madrid-Arganda Radial 5 Madrid-Navalcarnero** | Spain | Concession | 2004 | 1,200 | Debt: 659 millionEquity: 240 million | Accesos de Madrid, Concesionaria Española, S.A. | Tolls | 58-mile (tolled) road + 13-mile (free) road |
| **Radial 4 Madrid-Ocaña** | Spain | DBFOM | 2004 | 1,094 | Loan: 317 millionSyndicated bank loan: 528Equity: 170 million | Autopista Madrid-Sur, C.E.S.A | Tolls | 61-mile (tolled) road +25-mile (free) road |
| **M12 Eje Aeropuerto**  | Spain | BOT | 2005 | 600 |  | Autopista Eje Aeropuerto Concesionaria Española S.A.  | Tolls | 5-mile (tolled) road + 11-mile (free) road |

Projects that went bankrupt according to Public Works Financing (2015). Project Database. <http://pwfinance.net/projects-database/> Accessed: September 03, 2015

European countries under analysis: United Kingdom, and Spain. Other European countries under consideration that did not reported P3 projects facing bankruptcy: Italy, Portugal, Austria, Greece, Netherlands, Poland, Ireland, Germany, and Belgium.

 Defaults are not included.

Exchange rate: average of each year the project was open to the public.

Sources: Compiled by authors from multiple sources.

TABLE 2. U.S. and European P3 Projects That Declared Bankruptcy. Legal characteristics of the process

| **Project** | **Year Bankruptcy Filed** | **Bankruptcy Filer** | **Law** | **Court** |
| --- | --- | --- | --- | --- |
| **Camino Colombia Bypass** | 2004 | John Hancock Life Insurance and New York Life Insurance  | Texas Property Code Title 5 | Webb County Courthouse, Laredo Texas |
| **Southern Connector** | 2010 | Connector 2000 Association | U.S. Bankruptcy Code Chapter 9 | US Bankruptcy Court District of South Carolina |
| **Las Vegas Monorail** | 2012 | Las Vegas Monorail Corp. | U.S. Bankruptcy Code Chapter 11 | US Bankruptcy Court District of Nevada |
| **SR125 South Bay Expressway (South Section)** | 2010 | California Transportation Ventures, Inc. | U.S. Bankruptcy Code Chapter 11 | US Bankruptcy Court Southern District of California |
| **Foley Beach Expressway** | 2013 | American Roads, LLC | U.S. Bankruptcy Code Chapter 11 | US Bankruptcy Court Southern District of New York |
| **Indiana Toll Road** | 2014 | ITR Concession Co. LLC | U.S. Bankruptcy Code Chapter 11 | US Bankruptcy Court Northern District of Illinois |
| **London Underground infrastructure** | 2007 | Metronet BCV Ltd and Metronet SSL Ltd | U.K. Insolvency Act 1986 | Her Majesty´s High Court of Justice |
| **Channel Tunnel** | 2006 | Eurotunnel | France Insolvency Law (Law No. 2005-845) | Paris Commercial Court |
| **A-70 Circunvalación de Alicante** | 2013 | Ciralsa SACE | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Alicante Commercial Court #1Madrid Commercial Court #6 |
| **AP-7 Alicante-Cartagena** | 2013 | Autopista del Sureste Concesionaria Española de Autopistas, S.A. | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Madrid Commercial Court #6 |
| **AP-7 Cartagena-Vera** | 2013 | Autopista de la Costa Cálida Concesionaria Española de Autopistas, S.A. | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Madrid Commercial Court #11Madrid Commercial Court #6 |
| **AP-36 Ocaña-La Roda** | 2012 | Inversora de Autopistas de Levante y Autopista Madrid Levante | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Madrid Commercial Court #2 |
| **AP-41 Madrid-Toledo** | 2012 | Autopista Madrid-Toledo | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Toledo Commercial Court #1Madrid Commercial Court #6 |
| **Radial 2 Madrid-Guadalajara** | 2013 | Autopista del Henares S.A.C.E. | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Madrid Commercial Court #5Madrid Commercial Court #6 |
| **Radial 3 Madrid-Arganda Radial 5 Madrid-Navalcarnero** | 2012 | Accesos de Madrid, Concesionaria Española, S.A | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms  | Madrid Commercial Court #6 |
| **Radial 4 Madrid-Ocaña** | 2012 | Autopista Madrid-Sur, C.E.S.A | Spain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Madrid Commercial Court #6 |
| **M12 Eje Aeropuerto**  | 2013 | Autopista Eje Aeropuerto Concesionaria Española S.A.  | pain Bankruptcy Law (Law 22/2003) – After the 2014 reforms | Madrid Commercial Court #2Madrid Commercial Court #6 |

Projects that went bankrupt according to Public Works Financing (2015). Project Database. <http://pwfinance.net/projects-database/> Accessed: September 03, 2015

European countries under analysis: United Kingdom, France, and Spain. Other European countries under consideration that did not reported P3 projects facing bankruptcy: Italy, Portugal, Austria, Greece, Netherlands, Poland, Ireland, Germany, and Belgium.

 Defaults are not included.

Sources: Compiled by authors from multiple sources.

TABLE 3. U.S. and European P3 Projects That Declared Bankruptcy. Legal characteristics of the process

| **Project** | **Cause of bankruptcy** | **Actions taken to overcome bankruptcy** | **Current status** |
| --- | --- | --- | --- |
| **Camino Colombia Bypass** | Demand lower than projectedCompeting facility | Sold in auction for $12 million to John Hancock Financial Services Inc. | Toll road is openNew owner holds-up TxDOT and gets $20 million for selling the roadRoad is currently managed publicly by TxDOT |
| **Southern Connector** | Demand lower than projectedDemand drops during Great RecessionNo-skin-in-the-game (63-20 nonprofit corporation) | Reorganization plan approved in Aug. 2012 | Toll road is openDebt is restructuredThe $200 million bonds are replaced with a new issue of $150 million bondsTolls are increased |
| **Las Vegas Monorail** | Demand lower than projectedDemand drops due to the Great RecessionNo-skin-in-the-game (63-20 nonprofit corporation)Cost overruns (from $350-400 million to $650 million) | Reorganization plan approved in May 2012 | Monorail is openToll is restructured and reduced to $13 million |
| **SR125 South Bay Expressway (South Section)** | Environmental permitsCommunity oppositionDemand lower than projectedDemand drops due to the Great RecessionCost overruns (from $400 million to $650 million) | Purchased by San Diego Association of Governments for $341.5m in Dec. 2011 | Toll road is openTolls were decreased |
| **Foley Beach Expressway** | Demand lower than projected (in this and other four facilities operated in Alabama)Demand drops due to the Great RecessionParent company went bankrupt as the City of Detroit filed for chapter 9 bankruptcy, where it operated a tunnel. | American Roads LLC changes hands, from Alinda Capital Partners to Syncora, Alinda´s major creditor, under allegations of fraudulent traffic and revenue studies | Toll road is open |
| **Indiana Toll Road** | Great recession decreases interest rates playing against interest-rate swapsDemand shorter than projectedDemand drops during Great Recession | Purchased by IFM Investors for $5.72b in March 2015. 95% of the face value of the bonds was paid. | Toll road is open |
| **London Underground Infrastructure** | Deficient managementCost overruns | Ernst & Young handles the administration of Metronet Transport for London guaranteed 95% of the debt. UK government paid £1.7 billion in debt in 2008. | Responsibilities are back under the control of Transport for London |
| **Channel Tunnel**  | Cost overruns (from $10 billion to $17.5 billion)Demand shorter than projectedGrowing competition | 87% of ownership is transferred to lenders in exchange for halving debt. Debt is slashed from £6.2 billion down to £2.9 billion. | Tunnel is openAfter the restructuring plan, the company in charge is Groupe Eurotunnel |
| **A-70 Circunvalación de Alicante** | Demand lower than projectedDemand drops due to the Great Recession | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **AP-7 Alicante-Cartagena** | Demand lower than projectedDemand drops due to the Great Recession | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **AP-7 Cartagena-Vera** | Demand lower than projectedDemand drops due to the Great Recession | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **AP-36 Ocaña-La Roda** | Expropriation costsDemand lower than projectedDemand drops due to the Great Recession | Bankruptcy law is reformed. | Judge rejects government proposal (mentioned above)Judge mandates to liquidate concessionaires  |
| **AP-41 Madrid-Toledo** | Demand lower than projected Demand drops due to the Great RecessionGrowing competition | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **Radial 2 Madrid-Guadalajara** | Demand lower than projectedDemand drops due to the Great RecessionGrowing competition | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **Radial 3 Madrid-Arganda Radial 5 Madrid-Navalcarnero** | Demand lower than projected Demand drops due to the Great RecessionGrowing competition | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **Radial 4 Madrid-Ocaña** | Demand lower than projectedDemand drops due to the Great Recession | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |
| **M12 Eje Aeropuerto**  | Expropriation costsDemand lower than projectedDemand drops due to the Great Recession | Bankruptcy law is reformed. | Government proposal still under judicial review: Different bankrupted P3 road projects are grouped. Their debt is halved. A state-owned enterprise is created, to absorb roads and issues bonds to pay to lenders |

Projects that went bankrupt according to Public Works Financing (2015). Project Database. <http://pwfinance.net/projects-database/> Accessed: September 03, 2015

European countries under analysis: United Kingdom, France, and Spain. Other European countries under consideration that did not reported P3 projects facing bankruptcy: Italy, Portugal, Austria, Greece, Netherlands, Poland, Ireland, Germany, and Belgium.

 Defaults are not included.

Sources: Compiled by authors from multiple sources

TABLE 4. Spanish motorway P3 projects facing bankruptcy and the maximum pecuniary responsibility of the Spanish Government on each of them

|  |  |  |
| --- | --- | --- |
| **Spanish toll road** | **Bidding (year)** | **Maximum pecuniary responsibility of the state in case of bankruptcy (in Euros)** |
| **A-70 Circunvalación de Alicante** | 2004 | 398.6 million |
| **AP-7 Alicante-Cartagena** | 1998 | 223.7 million |
| **AP-7 Cartagena-Vera** | 2004 | 526.8 million |
| **AP-36 Ocaña-La Roda** | 2004 | 487.2 million |
| **AP-41 Madrid-Toledo** | 2004 | 348.9 million |
| **Radial 2 Madrid-Guadalajara** | 2000 | 40.7 million |
| **Radial 3 Madrid-Arganda Radial 5 Madrid-Navalcarnero** | 1999 | 677.0 million |
| **Radial 4 Madrid-Ocaña** | 2000 | 559.7 million |
| **M12 Eje Aeropuerto**  | 2002 | 305.5 million |
| **Total resources at risk due to toll road bankruptcy** |  | **3,568.1 million** |

Source: Ridao Martín and García Martínez (2013), Albalate et al. (2015).