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2022 ANNUAL PRIVATIZATION REPORT: SURFACE TRANSPORTATION

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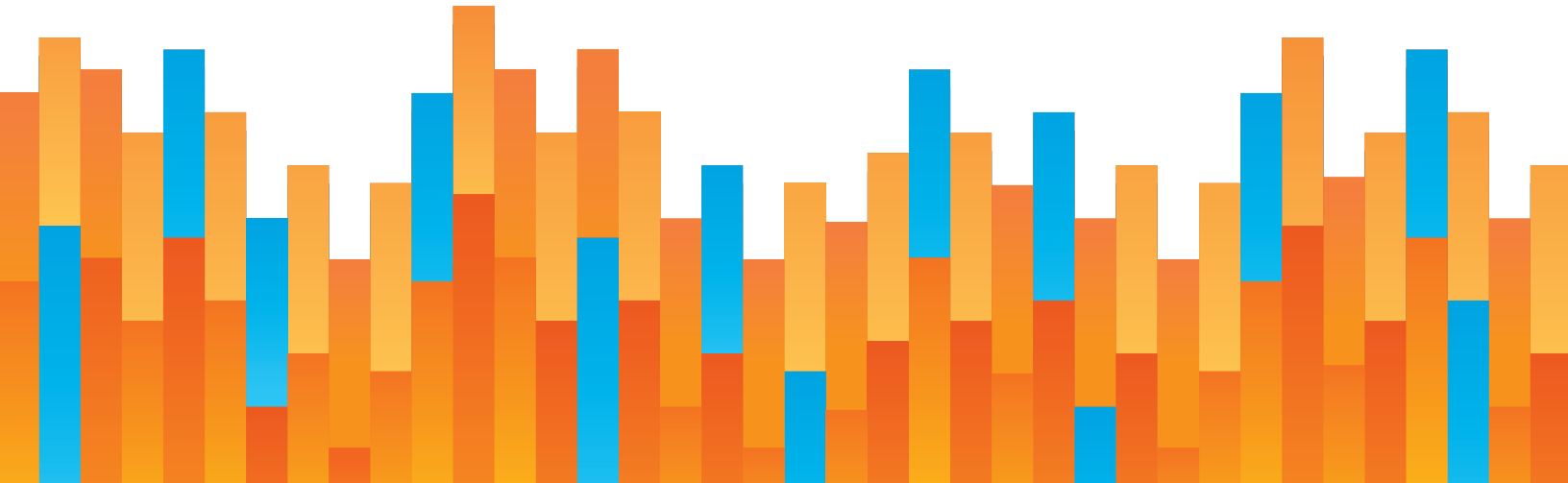
May 2022



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PART 1

OVERVIEW

Governments have used long-term public-private partnerships (P3s) for surface transportation projects for the past 60 years. As documented by José A. Gómez-Ibáñez and John Meyer, the phenomenon began in the 1950s and 1960s as France and Spain emulated the model pioneered by Italy prior to World War II.[1] Italy's national motorway systems were developed largely by investor-owned or state-owned companies operating under long-term franchises (called concessions in Europe). In exchange for the right to build, operate, and maintain the highway for a period ranging from 30 to 70 years, the company could raise the capital needed to build it (typically a mix of debt and equity). The model spread to Australia and parts of Asia in the 1980s and 1990s, and to Latin America in the 1990s and 2000s.

Nearly all the projects in those regions from the 1950s to 1980s were financed based on the projected toll revenues to be generated once the highway was in operation. Some projects went bankrupt as a consequence of reduced traffic and revenues during severe economic downturns (e.g., the oil price shock of 1974), leading to nationalization of some companies. In the late 1990s and early 2000s, however, the governments of France, Italy, Portugal, and Spain all privatized their state-owned toll road companies and formalized the toll concession P3 model. Australia has allowed several concession company entities to go through liquidation, with the assets (in each case major highway tunnels) being acquired by new operators at a large discount from the initial construction cost.

[1] José A Gómez-Ibáñez and John R. Meyer, "Going Private: The International Experience with Transport Privatization," Brookings Institution, 1993. https://trid.trb.org/view/405691 (6 June 2019).

In the late 1990s and early 2000s… the governments of France, Italy, Portugal, and Spain all privatized their state-owned toll road companies and formalized the toll concession P3 model.

Other governments in Europe adopted a different form of highway concession. Generally, not favoring the use of tolls, they created the concept of availability payments as a means of financing long-term concession projects. In this structure, the company or consortium selected via a competitive process negotiates a stream of annual payments from the government sufficient (the company expects) to cover the capital and operating costs of the project, and make a reasonable profit. The capital markets generally find such a concession agreement compatible with financing the project, via a mix of debt and equity. Since no toll revenues are involved, this model applies to a much broader array of transport and facility projects, including rail transit and public buildings. In the highway sector, nearly all long-term concession P3 projects in Canada, Germany, the UK, and a number of Central and Eastern European countries have been procured and financed as availability payment (AP) concessions.[2]

In the highway sector, nearly all long-term concession P3 projects in Canada, Germany, the UK, and a number of Central and Eastern European countries have been procured and financed as availability payment (AP) concessions.

[2] "PPPs on German Federal Trunk Roads," Joint Workshop on Financing Transport Infrastructure, Geneva, 10 Sep. 2013. Lecture. (6 June 2019).

In a small but growing number of cases—major bridges, as well as highway reconstruction that includes the addition of express toll lanes, for example—governments collect the toll revenues and use the money to help meet their availability payment obligations.[3] These cases are called "hybrid concessions" in this report.

Seven of the top 10 worldwide P3s that reached financial close in 2021 used availability payments, continuing a growing trend over the last seven years.[4] The increasing use of AP concessions has enabled P3s for projects that do not generate their own revenues, as well as hybrid concessions in which toll revenues help the government cover the costs of its AP obligations.

Many P3 project components, steps, or procedures are abbreviated using acronyms. The following abbreviations are used throughout this paper to refer to the different P3 contracts, P3 procedures, and relevant policies:

- AP: Availability Payment
- BOO: Build-Operate-Own
- BOT: Build-Operate-Transfer
- DBF: Design-Build-Finance
- DBFM: Design-Build-Finance-Maintain
- DBFOM: Design-Build-Finance-Operate-Maintain
- DBOM: Design-Build-Operate-Maintain
- IIJA: Infrastructure Investment and Jobs Act
- P3: Public-Private Partnership
- PAB: Private Activity Bond
- RFI: Request for Information
- RFP: Request for Proposals
- RFQ: Request for Qualifications

[3] "Public-Private Partnership (PPP) Procurement: A Guide for Public Owners," Build America Bureau, U.S. Department of Transportation, *Transportation.gov*, 2019. https://www.fhwa.dot.gov/ipd/pdfs/PPP toolkit/PPP_procurement_guide_0319.pdf (27 June 2019).

[4] For the past seven years almost three-quarters of the largest P3 projects, by financial value, have used AP P3s.

- RR: Revenue Risk
- TIFIA: Transportation Infrastructure Finance and Innovation Act
- TOT: Toll-Operate-Transfer

PART 2

PRIVATE HIGHWAY PROJECTS

In surface transportation policy, P3s are far more common than privatized roads. However, there are 18 privately owned highways and bridges in the United States. Table 1 displays these facilities and includes the type of project, ownership, cost, and year constructed.

TABLE 1: PRIVATE ROADWAYS AND BRIDGES

Roadway/Bridge Name	State	Project Type	Owner	Cost $ (M)	Year Constructed
Adams Avenue Parkway	UT	Bypass	Adams Avenue Parkway Inc.	$8.9	2001
Alabama River Parkway Bridge	AL	Bridge	American Roads, LLC	$12.0	1998
Ambassador Bridge	MI to Canada	Bridge	Detroit International Bridge Company	$23.5	1929
Black Warrior Parkway Bridge	AL	Bridge	American Roads, LLC	$25.0	1998
Cline Avenue Bridge	IL	Bridge	Figg/American Infrastructure	$150.0	2020
Detroit-Windsor Tunnel	MI to Canada	Bridge	Detroit & Canada Tunnel Corp; Detroit, MI	$23.0	1930
Dingman's Ferry Bridge	NJ to PA	Bridge	Dingman's Choice & DE Bridge Company	N/A	1900
Downbeach Express	NJ	Bridge	Margate Bridge Company	N/A	1929
Emerald Mountain Expressway	AL	Bridge	American Roads, LLC	$4.0	1994

Roadway/Bridge Name	State	Project Type	Owner	Cost $ (M)	Year Constructed
Foley Beach Express	AL	Highway	American Roads, LLC	$25.0	2000
Fort Frances-International Falls International Bridge	MN to Canada	Bridge	Boise Inc./ Resolute Forest Products	N/A	1912
Fort Madison	IL to Indiana	Bridge	A.T. & S.F. Rdway Co; Topeka, KS	$5.5	1927
Grosse Ile Toll Bridge	MI	Bridge	Grosse Ile Bridge Company	$3.9	1913
Orchard Pond Parkway	FL	Highway	Orchard Pond Parkway, LLC	$17.0	2016
Newell-East Liverpool Toll Bridge	WV to Ohio	Bridge	Newell Brdg & Rdwy Co, Newell, WV	$0.225	1905
Rio Grande City–Camargo International Bridge	TX to Mexico	Bridge	Starr Camargo Bridge Company	N/A	1966
Progreso International Bridge	TX to Mexico	Bridge	Progreso International Bridge Co.	N/A	1952
South Norfolk Jordan Bridge	VA	Bridge	Figg/American Infrastructure	$142.0	2011

Note: Table 1 does not include toll roads or bridges that provide access to private communities, resorts, or tourist destinations only.
Source: "Toll Facilities in the United States," April 2018, FHWA.DOT.gov

The **Adams Avenue Parkway** is a one-mile private toll road in Washington Terrace, Utah that provides direct access from local communities to I-84.[5] The route provides an alternative to the traffic lights, low speed limits, and congestion of US 89 and local streets.

Drivers pay a toll to access **the Montgomery Expressway**, also known as the Alabama River Parkway northeast of Montgomery near SR 152.[6] The 12.5-mile Montgomery Expressway carries SR 143 from Montgomery to the northern residential suburbs of Coosada, Millbrook, and Prattville. Drivers cross the Alabama River Parkway Bridge to access the Expressway.

The **Ambassador Bridge** provides a direct connection between Detroit, Michigan and Windsor, Ontario.[7] The bridge connects Highway 3 in Canada with I-96 in Michigan and is the only route between Detroit and Windsor that allows large trucks; the lanes on the Detroit-Windsor Tunnel, the only other road crossing between the cities, are too narrow for tractor-trailers.

5 "Welcome," *adamsavenueparkway.com*, Adams Avenue Parkway, INC., 2022. http://www.adamsavenueparkway.com/index.htm (19 Jan. 2022).

6 "About Us." *montgomeryexpressway.com*, Montgomery Expressway, 2022. https://www.montgomeryexpressway.com/About.aspx (19 Jan. 2022).

7 "About Us." *ambassadorbridge.com*, Ambassador Bridge, 2022. https://www.ambassadorbridge.com (7 Feb. 2022).

The **Black Warrior Parkway Bridge**, also known as the Tuscaloosa Bypass, is a private toll bridge over the Black Warrior River west of downtown Tuscaloosa, Alabama.[8] The bridge, located near the Tuscaloosa National Airport, connects downtown with the city's northern and western suburbs.

The **Cline Avenue Bridge** is a private toll bridge over the Indiana Harbor and Ship Canal, which connects I-80, I-90, and I-94 with mills and casinos along Lake Michigan. It replaced the former bridge operated by INDOT, which was deemed unsafe in 2009.[9]

The **Detroit-Windsor Tunnel** is an underwater tunnel providing a connection between Detroit, Michigan and Windsor, Ontario.[10] The tunnel was constructed in 1930 in order to provide swift transportation under the Detroit River between the U.S. and Canada.

The **Dingman's Ferry Bridge** was constructed in 1900, providing an alternative to ferry service to cross the Upper Delaware River.[11] The two-lane bridge connects Pike County, Pennsylvania to Sussex County in New Jersey.

The **Downbeach Express Toll Bridge** in Margate, New Jersey provides a connection between Margate City on Absecon Island and the New Jersey mainland via Margate Boulevard, which is also maintained by toll revenue.[12] The bridge allows drivers in Margate to avoid a route north through Atlantic City or south through Longport to access the mainland and the Garden State Parkway.

The 1.75-mile **Emerald Mountain Expressway** consists of a toll bridge over the Tallapoosa River and a road that connects Rifle Range Road and Wares Ferry Road in the northeast suburbs of Montgomery, Alabama.[13] The expressway bypasses a much lengthier 45- to 60-

8 "The Fastest Route Between Tuscaloosa and Northport." *Tuscaloosabypass.com*, Tuscaloosa By-Pass, 2022. www.tuscaloosabypass.com/Home.aspx. (19 Jan. 2022).

9 "Background," clineave.com, Cline Avenue Bridge, 2022. https://www.clineave.com/background (31 Mar. 2022).

10 "History," *dwtunnel.com*, Detroit-Windsor Tunnel. 2018. www.dwtunnel.com/history/ (23 Jan .2022).

11 "History," *dcdbc.com*, Dingmans Choice and Delaware Bridge Company, 2022. www.dcdbc.com/history.php (23 Jan. 2022).

12 "Welcome." *downbeachexpress.com*, Downbeach Express. 2021. https://downbeachexpress.com/Home_Page.html (19 Jan. 2022). www.downtownbeachexpress.com/

13 "Travel Fast Travel Smart." *Emeraldmountainexpressway.com*, Emerald Mountain Expressway, 2022, https://www.emeraldmountainexpressway.com/Home.aspx (19 Jan. 2022).

minute drive via US 231 by providing a direct 15-minute route between the communities of Emerald Mountain and eastern Montgomery.

The **Foley Beach Express** (FBE) is an arterial highway and tolled bridge that connects the Alabama communities of Gulf Shores and Orange Beach to more-northern parts of Baldwin County, extending 14 miles north to Foley. A second, untolled connecting road, the Baldwin Beach Express, originates near the northern terminus of the FBE, and extends another 13 miles to I-10.[14] Paralleling SR 59, the highway has higher travel speeds and offers better travel time reliability during the peak tourist season.

The **Fort Frances-International Falls International Bridge** is a privately owned toll bridge that connects Fort Francis in Ontario with International Falls, Minnesota.[15] The bridge carries US 53 and US 71 to Highway 11 and Highway 71 in Canada, both part of the Trans-Canada Highway.

The **Fort Madison Bridge**, also known as the Mississippi River Bridge, was the first bridge to span the Mississippi at Fort Madison in 1927.[16] It provides a connection between Fort Madison, Iowa and Niota, Illinois for rail traffic on the lower part of the bridge and automobile traffic on the upper portion.

The private **Grosse Ile Toll Bridge** connects Grosse Ile, the largest island on the Detroit River, with mainland Michigan.[17] The island, located south of Detroit and home to over 10,000 residents, is also connected to the mainland by the untolled Wayne County Bridge.

The **Newell-East Liverpool Toll Bridge** over the Ohio River, connects Newell, West Virginia to East Liverpool, Ohio.[18] The bridge was constructed in 1905, and today provides interurban transportation for automobiles and pedestrians.

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14 "Non-Interstate System Toll Bridges and Tunnels in the United States." The Office of Highway Policy Information, *fhwa.dot.gov*, 2018. www.fhwa.dot.gov/policyinformation/tollpage/page07.cfm (7 Feb 2022).

15 Ibid.

16 "Historic Bridges in Iowa, Fort Madison Bridge," *iowadot.gov*, Iowa Department of Transportation, 2022. https://iowadot.gov/historicbridges/historic-bridges/fort-madison-bridge (23 Jan. 2022).

17 "History of the Grosse Ile Toll Bridge," *grosseillbridge.com*, Grosse Ill Bridge Company, 2022. Jan. 19, 2022. www.grosseilebridge.com/history/ (19 Jan. 2022).

18 "Newell Bridge," *historicbridges.org*, Historic Bridges. 2022. www.bridgestunnels.com/location/newell-toll-bridge/ (23 Jan 2022).

The **Orchard Pond Parkway** in northern Leon County acts as a bypass of Tallahassee, Florida, connecting the communities to the northwest and northeast of the city.[19] The eastern end of the parkway is at CR 155, while the western end terminates at CR 157.

The **Progreso International Bridge** connects Nuevo Progreso, Mexico and Progreso, Texas providing a transportation link for trucks, motorists, and pedestrians.[20] Since its construction in 1952, the bridge has served commercial purposes and made border crossings more efficient.

The **Rio Grande City—Camargo International Bridge** is a privately owned and operated bridge that spans the Rio Grande and connects Rio Grande City, Texas to Camargo in Mexico.[21] On the United States side, the bridge provides access via local streets to US 83.

The **South Norfolk Jordan Bridge** carries State Route 337 between the Virginia cities of Portsmouth and Chesapeake over the Southern Branch Elizabeth River.[22] The cities are also connected by the Midtown and Downtown tunnels north of the bridge and a vehicular bridge farther south.

19 "About Us." *Orchardponparkway.com*, Orchard Pond Parkway, 2022, www.orchardpondparkway.com (19 Jan. 2022).

20 "About Us." *texasmexicobridges.com*, Progreso International Bridge, 2022 https://texasmexicobridges.com/who-we-are/(23 Jan. 2022).

21 "Non-Interstate System Toll Bridges and Tunnels," *FHWA.DOT.gov*.

22 "About Us," *snjb.net*, South Norfolk Jordan Bridge, 2021. https://snjb.net/jordan-bridge-history/ (23 Jan. 2022)

PART 3

INTERNATIONAL SURFACE TRANSPORTATION INFRASTRUCTURE 2021

3.1 LARGEST INTERNATIONAL SURFACE TRANSPORTATION P3S

Part 3 provides an overview of worldwide surface transportation P3 activity in 2021.[23] It was a strong year for global P3 activity with 112 project closings worth $45.6 billion. These projects were mainly dispersed throughout Latin America and Asia, followed by Europe. Five project closings were worth more than $1 billion each in 2021. This is an increase from four project closings of more than $1 billion each in 2020.[24] Table 2 displays the 10 largest agreements, which were compiled using information from *Inframation* and *Inspiratia,* two news publications that provide P3 data resources.

[23] "Global Surface Transportation PPP Deals, January 1, 2021–December 31, 2021," *InframationNews.com* Inframation News, 2019. https://www.inframationnews.com/deals/ (23 Jan. 2022).

[24] "Global Service Transportation PPP Deals, January 1, 2020–December 31, 2020," Inframation News, InframationNews.com, 2020. https://www.inframationnews.com/deals/ (25 Feb. 2021).

TABLE 2: LARGEST GLOBAL SURFACE TRANSPORTATION P3 PROJECTS

Project	Location	Country	Cost $ (B)	Type	Duration (In Years)	Concessionaire
Northeast Link Motorway	Melbourne	Australia	$8.34	DBFOM AP	33	Spark
Tianjin Metro Z4 Phase 1	Tianjin	China	$3.28	DBFOM AP	21	Tianjin Teda Investment Holding and China Railway Electrification Group
Thameslink Rolling Stock Refinancing	Countrywide	England	$1.95	DBFM AP	16	Cross London Trains
Yavuz Sultan Selim Bridge Refinancing	Istanbul	Turkey	$1.20	DBFOM AP	10	Industrial and Commercial Bank of China
Aydin-Denizli-Burdur Motorway	Antalya, Izmir	Turkey	$1.13	DBFOM RR	20	Fernas
Route 78	Santiago-San Antonio	Chile	$0.89	DBFOM-AP	32	Sacyr Concessions Chile
BR-153/ 080/414/TO/GO Retender	Anápolis, Aliança do Tocantins	Brazil	$0.79	DBFOM RR	35	Ecorodovias, Global Logistics Partners
D4 Expressway	Háje, Mirotice	Czech Republic	$0.75	DBFOM AP	25	Vinci, Meridiam
Magdalena River Highway 2	Remedios, Alto de Dolores	Colombia	$0.74	DBFOM RR	25	Colombian Development Bank
São Paulo Light Rail	São Paulo	Brazil	$0.57	DBFOM AP	30	Concessionária das Linhas 8 e 9 do Sistema de Trens Metropolitanos de São Paulo

Source: 2021 Transaction list from Inframation Infrastructure News

The following are brief explanations of each project.

The **Northeast Link Motorway** DBFOM AP P3 project that seeks to construct twin three-lane tunnels, each six km in length, connecting Melbourne's Eastern Freeway to Somers Avenue located in the city's suburbs.[25] The project was granted by the Victorian state government, reaching financial close in October of 2021.

Phase 1 of the **Tianjin Metro Z4** DBFOM AP P3, the first portion of a larger metro line project granted by the Tianjin Municipal Government, reached financial close in June of

[25] North East Link Motorway." *Inframationnews.com*, Inframation. 2022. www.inframationnews.com/deals/1995976/north-east-link-motorway.thtml (24 Jan. 2022).

2021.[26] This will be the first rail line throughout the city of Tianjin, with 17 km of underground track and 24 km of elevated track along 24 stations.

The **Thameslink Rolling Stock** DBFOM AP P3 is a project consisting of the procurement and leasing of rolling stock to be used on the Thameslink passenger rail network.[27] The refinancing reached financial close in November 2021.

The **Aydin-Denizli-Burdur Motorway** DBFOM RR P3, a project connecting Aydin, Denizli, and Burdur, Turkey, was granted by the General Directorate of Highways.[28] The project to construct a 168 km motorway with four to eight lanes reached financial close in December 2021.

The **Yavuz Sultan Selim Bridge** DBFOM AP P3 in Istanbul, Turkey was refinanced with support of the Turkish branch of the Industrial and Commercial Bank of China.[29] The bridge will be the first eight-lane highway with a two-lane railway on the same level and the longest and widest suspension bridge in the world. The project's refinancing reached financial close in December of 2021.

The **Santiago-San Antonio Highway, Second** (DBFOM AP) **P3 Project** widens the 132-km highway linking the capitol of Santiago with the port city of San Antonio.[30] The Chilean government awarded the 32-year project to Sacyr Concessions in November. The company is also improving Routes 66 and 77.

The **BR-153/080/414/TO/GO** DBFOM RR P3, a project which connects Anápolis to Aliança do Tocantins, Brazil, was granted by the Brazilian Ministry of Transportation.[31] The project,

[26] "Tianjin Metro Z4 Phase 1 PPP." *Infrqamationmews.com*, Inframation. 2021. www.inframationnews.com/deals/4067836/tianjin-metro-z4-phase-1-ppp.thtml (24 Jan. 2022).

[27] "RailCorp Stock Public Private Partnership," *ppp.worldbank.org*, The Wyorld Bank Public Private Partnership Legal Resource Center, 25 Oct 2021. https://ppp.worldbank.org/public-private-partnership/library/railcorp-rolling-stock-public-private-partnership (14 Feb. 2022).

[28] "Aydin-Denizli-Burdur Motorway PPP." *Inframationnews.com*, Inframation, 2021. www.inframationnews.com/deals/807033/aydin-denizli-burdur-motorway-ppp.thtml (24 Jan. 2022).

[29] "Chinese Banks are in Operation for the Transfer of Shares on the Northern Marmara Highway and Third Bridge," *en.rayhaber.com*, Railley News, 28 Mar 2021. https://en.rayhaber.com/2021/03/kuzey-marmara-otoyolu-ve-3-kopru-hisse-devri-icin-cinli-bankalar-devrede/ (14 Feb. 2022).

[30] MJ. Woof, "Chilean Highway Deals Secured by Sacyr," *worldhighways.com*, World Highways, 29 Nov. 2021. https://www.worldhighways.com/wh8/news/chilean-highway-deals-secured-sacyr (14 Feb. 2021).

[31] "BR-153/080/414/GO/TO Retender." *Inframationnews.com*, Inframation. 2021. www.inframationnews.com/deals/2411186/br-153-080-414-go-to-retender.thtml. (24 Jan .2022.)

which reached financial close in October 2021, creates an 850-km highway connecting North and South-Central Brazil.

The **D4 Expressway** DBFOM AP P3, stretching between Háje and Mirotice in the Czech Republic, was granted by the Czech Republic Ministry of Transport.[32] The 32-km four-lane motorway reached financial close in April 2021.

The **Magdalena River Highway 2** DBFOM RR P3 is a four-lane 150-kilometer highway linking Remedios to Alto de Dolores, Colombia to the Ruta del Sol Highway in Puerto Berrio.[33] The highway began construction in 2019 after the project was granted by the Colombian National Infrastructure Agency.

The **São Paulo Light Rail** DBFOM AP P3, a project that seeks to develop 34 trains and build two new stations along the SP subway lines 8 and 9, was granted by the Companhia Paulista de Trens Metropolitanos.[35] The project which aims to modernize the existing rail line reached financial close in July 2021.

3.2 COUNTRIES REACHING FINANCIAL CLOSE ON FIRST P3

In 2021, three countries reached financial close on their first surface transportation P3: Latvia, the Czech Republic, and Cameroon. Table 3 displays these three projects.

The **D4 Expressway** DBFOM AP P3 is detailed in section 3.1.

The **E67 A7 Kekava Bypass** DBFO AP P3, an expansion of the current Kekava Bypass in Riga, Latvia from a two-lane to four-lane expressway, was granted by Latvian State Roads.[34] The project reached financial close in July 2021. The project will expand one of the major national motorways in the country.

[32] "D4 Expressway (Haje-Mirotice) PPP." *Inframationnews.com*, Inframation. 2021. www.inframationnews. com/deals/309211/d4-expressway-haje-mirotice-ppp.thtml(24 Jan. 2022).

[33] "Magdalena River Highway 2 (Autopistas al Río Magdalena 2)." *Inframationnews.com*, Inframation. 2021. www.inframationnews.com/deals/984523/magdalena-river-highway-2-autopistas-al-r-o-magdalena-2.thtml (5 Feb. 2022).

[34] "E67 A7 Kekava Bypass PPP," *Inframationnews.com*, Inframation. 2021. www.inframationnews.com/deals/1843711/e67-a7-kekava-bypass-ppp.thtml (25 Jan. 2022).

TABLE 3: COUNTRIES THAT REACHED FINANCIAL CLOSE ON FIRST P3 IN 2021

Country	Location	Project	Cost $ (B)	Type	Duration (In Years)	Concessionaire
Czech Republic	Háje, Mirotice	D4 Expressway (Háje-Mirotice) P3	$0.75	DBFOM AP	25	Vinci, Meridiam
Latvia	Riga	E67 A7 Kekava Bypass P3	$0.30	DBFOM AP	23	ACB, Binders, TIIC Consortium
Cameroon	Throughout the country	Cameroon Toll Station P3	$0.07	DBOM AP	20	Egis, Fayat

Source: 2021 Transaction list from Inframation Infrastructure News

The **Cameroon Toll Station** DBOM AP P3, a construction of 14 toll stations, car park, and maintenance facilities along four main toll roads in Cameroon, was granted by Cameroon's Ministry of Public Works.[35] The project reached financial close in February 2021.

3.3 INTERNATIONAL P3 ACTIVITY BY REGION

The first transportation P3s were located in Australia and Europe, but by 2021 there was surface transportation P3 activity on every inhabited continent. Table 4 summarizes the surface transportation P3s that reached financial close by region, and provides a value of all P3s within a region. For context, Latin America saw the largest number of P3 closures with 36, followed by Asia with 35 and Europe with 23. Europe's P3 projects had the highest total value at $11.8 billion.

TABLE 4: GLOBAL SURFACE TRANSPORTATION P3S IN 2021

Region	Number of Financial Closes	Value $(B)
Africa	1	$0.06
Asia	35	$8.57
Australasia	3	$9.13
Europe	23	$11.84
Latin America	36	$8.26
Middle East	0	$0
North America	14	$7.69

Source: 2021 Transaction list from Inframation Infrastructure News

35 "Cameroon Toll Stations PPP." *Inframationnews.com*, Inframation. 2021. www.inframationnews.com/deals/7857641/cameroon-toll-stations-ppp.thtml (25 Jan. 2022).

PART 4

U.S. SURFACE TRANSPORTATION CONCESSIONS, 2021

4.1 LARGEST U.S. SURFACE TRANSPORTATION P3S

Over the past 35 years, 36 U.S. highway P3s and three U.S. transit P3s have reached financial close. While not impressive by international standards, the pace of P3 projects has accelerated over the past 10 years. Table 5 provides an overview of the FY 2021 U.S. surface transportation concession market, listed in order of the investment value of each project. The length of each lease is provided for existing toll roads now leased to private concessionaires.

Most new P3 projects use a DBFOM contract with terms ranging from 30 to 70 years. Since 2012, the major trend in highway concessions has reportedly migrated away from toll-revenue-based financing toward AP-based financing. (Transit projects need to use AP-based financing as they do not generate enough revenue.) However, of the 37 highway projects in Table 5, 25 are financed based on toll revenues alone. Of the others, only six are financed on a pure AP basis, with six larger AP concessions all involving new toll revenues that will supplement the state's revenue sources. The total dollar value of the 40 concessions is $56.2 billion, of which 72.46% is generated based on toll revenue financing, with the other

27.54% financed based on the states' (and in the case of Goethals Bridge, the Port Authority of New York and New Jersey's) AP commitments.

TABLE 5: LARGEST U.S. LONG-TERM SURFACE TRANSPORTATION CONCESSIONS AS OF DECEMBER 12, 2021

Project	Location	Cost ($) B	Type	Most Recent Closing	Concessionaire
Purple Line Transit	Montgomery/ Prince Georges County, MD	$5.9	DBFOM, AP	06/16	Purple Line Transit Partners LLC
Indiana Toll Road	Indiana	$5.73	75-year lease, toll	05/15	IFM Global Infrastructure Fund/California Public Employees' Retirement System/Allstate
I-4 Ultimate Managed Lanes	Orlando, FL	$2.88	DBFOM, AP/toll	09/14	Skanska/Granite/Lane
I-635 LBJ Managed Lanes	Dallas, TX	$2.57	DBFOM, toll	06/10	Cintra/Meridiam
Transform 66 P3 (Outside the Beltway I-66)	Fairfax County/Prince William County, VA	$2.41	DBFOM, toll	11/17	APG/Cintra/Ferrovial/John Laing/Meridiam Infrastructure North America II
Midtown Tunnel	Norfolk, VA	$2.40	DBFOM, toll	11/20	Abertis, Manulife Investment Management
North Tarrant Express (Phase I and 2W)	Fort Worth, TX	$2.12	DBFOM, toll	12/09	Cintra/APG/Meridiam
I-495 Express Lanes	Fairfax County, VA	$2.07	DBFOM, toll	05/07	Transurban/Fluor
Denver Eagle P3 Rail	Denver, CO	$2.04	DBFOM AP	08/10	Fluor/Lang/Uberior
Moynihan Train Hall	New York City, NY	$1.85	99-year lease AP	11/21	Empire State Development Corporation
I-595 Managed Lanes	Fort Lauderdale, FL	$1.83	DBFOM, AP/toll	10/09	ACS Infrastructure
Chicago Skyway	Chicago, IL	$1.83	89-year lease, toll	02/16	The Canadian Pension Plan Investment Board/ Ontario Municipal Employees Retirement System/ Ontario Teachers' Pension Plan
Goethals Bridge	New York City, NY	$1.44	DBFM, AP/toll	11/13	Macquarie/Kiewit
PR-22/PR-5	Puerto Rico	$1.44	DBFOM, toll	05/13	Abertis/Goldman Sachs
SH 183 Managed Lanes	Dallas – Fort Worth, TX	$1.42	DBFOM, AP/toll	11/14	Kiewit
North Tarrant Express Phase 3A	Fort Worth, TX	$1.41	DBFOM, toll	06/16	Cintra/Meridiam/APG
I-75 Modernization Segment 3 P3	Michigan	$1.40	DBFM, AP	11/18	AECOM/Ajax/Dan's Excavating Inc/Jay Dee/John Laing
SH 130 Segments 5-6	Texas	$1.33	DBFOM, toll	03/08	SH 130 Concession Co.
ORB East End Crossing	Louisville, KY	$1.32	DBFOM, AP/toll	03/13	Walsh/Vinci/Bilfinger Berger

Project	Location	Cost ($) B	Type	Most Recent Closing	Concessionaire
Central 70 P3	Denver, CO	$1.27	DBFOM, AP/toll	9/21	Kiewit/Meridiam/Jacobs Engineering Group/WSP
Rapid Bridge Replacement	Pennsylvania	$1.12	DBFM, AP	03/15	Plenary Walsh
Port of Miami Tunnel	Miami, FL	$1.11	DBFOM, AP	10/09	Meridiam/Bouygues Travaux Publics
SH 288 Toll Lanes	Harris County, TX	$1.06	DBFOM, toll	05/16	ACS/Infrared/Shikin & Binui/Northleaf/Clal Insurance/Star America
I-95 Express Lanes	Virginia	$0.92	DBFOM, toll	07/12	Transurban/Fluor
Presidio Parkway	San Francisco, CA	$0.85	DBFOM, AP	06/12	Meridiam/ HOCHTIEF PPP Solutions
I-95 Express Lanes Fredericksburg Extension	Virginia	$0.83	DBFOM, toll	07/19	Transurban Group
SR 125, South Bay Expressway	San Diego, CA	$0.66	DBFOM, toll	07/11	SANDAG
Portsmouth Bypass	Portsmouth, OH	$0.65	DBFOM, AP	04/15	ACS, Infrared, Star
I-77 Managed Lanes	Charlotte, NC	$0.64	DBFOM, toll	05/15	Cintra/Aberdeen/John Laing
Pocahontas Parkway	Richmond, VA	$0.60	99-year lease, toll	06/06	DBi Services/Macquarie
Northwest Parkway	Denver, CO	$0.60	99-year lease, toll	03/17	DIF/InfraRed/HICL/ Northleaf
I-69 Upgrade	Indiana	$0.56	DBFOM, AP	05/17	INDOT
I-395 P3	Virginia	$0.55	DBFOM, toll	06/17	Transurban/Fluor
Dulles Greenway Toll Road	Loudoun County, VA	$0.35	DBFOM, toll	02/17	Macquarie
Southern Connector, SC	Greenville, SC	$0.24	DBFOM (63-20)*, toll	08/12	SCDOT
91 Express Lanes	Orange County, CA	$0.21	DBFOM, toll	11/03	OCTA
US 36 HOT Lanes, Phase 2	Colorado	$0.21	DBFOM, toll	02/14	Plenary/Ames/Granite
Belle Chasse Bridge and Tunnel Replacement	Belle Chasse, LA	$0.16	DBFOM, toll	12/19	Plenary
Teodoro Moscoso Bridge	San Jose, Puerto Rico	$0.13	DBFOM, toll	01/92	Abertis
Camino Columbia Bypass	Laredo, TX	$0.09	DBFOM, toll	06/99	TXDOT

*** Before Private Activity Bonds (PABs) were authorized, non-profit corporations labeled 63-20s allowed a project to be financed with tax-exempt bonds. Since PABs are preferable, 63-20s are no longer used.**
Source: "US Highway PPP Deals," Inframation Infrastructure News, Acuris.

The continued expansion and redevelopment of U.S. highways with P3s provides cause for optimism in three different ways. First, it suggests that the more aggressive developers of

new toll projects have an exit option after the project is operational and demonstrating traffic and revenue results. These purveyors may want to shift their capital to new projects.

Second, it shows that P3s can be successful in attracting much-needed investment in replacing the U.S.' first-generation, largely untolled Interstate highways (which are nearing the end of their useful life). Such projects should be particularly attractive to pension fund investments, since they are lower risk than greenfield projects. Pension funds may also be seen as more politically acceptable to legislators and the public than global investment firms seeking higher rates of return.

Third, it reveals P3 actors' sustained commitment to roadway quality due to the long-term nature of P3 contracts and their handback provisions calling for infrastructure assets to be returned to agencies in good condition.

4.2 2021 SURFACE TRANSPORTATION P3S

> *During the 2021 calendar year (January-December), no U.S. surface transportation P3 deals reached financial close.... The COVID-19 pandemic, which significantly altered travel activity, is the primary cause.*

During the 2021 calendar year (January-December), no U.S. surface transportation P3 deals reached financial close. This is extremely unusual, and is the first time in more than 20 years that no deals closed during a calendar year. The COVID-19 pandemic, which significantly altered travel activity, is the primary cause. As COVID-19 becomes endemic and commute patterns stabilize, P3 activity will likely recover.

PART 5

FEDERAL POLICY ON P3 CONCESSIONS

5.1 SURFACE TRANSPORTATION REAUTHORIZATION

In late 2021, Congress passed the Infrastructure Investment and Jobs Act (IIJA), which included a five-year reauthorization of federal surface transportation policy.[36] The law made significant changes to public-private partnerships as well as two financing tools used by many P3 projects: Transportation Infrastructure Finance and Innovation Act (TIFIA) loans and Private Activity Bonds (PABs). It also regulates how tolling, the largest P3 funding source, can be used.

5.1.1 IIJA AND P3 PROVISIONS

The IIJA made several changes relating to P3 projects that use federal funding or financing. The law requires P3 projects costing more than $750 million and using either a TIFIA or Railroad Rehabilitation and Improvement Financing (RRIF) loan to conduct a value-for-money (VfM) analysis.[37] A VfM analysis is used to compare the financial impacts of a P3

[36] "Infrastructure Investment and Jobs Act, H.R. 3684" Congress.gov, *congress.gov*, Nov. 2021. https://www.congress.gov/bill/117th-congress/house-bill/3684/text (15 Feb. 2022).

[37] "AASHTO Comprehensive Analysis of the Bipartisan Infrastructure Bill," *policy.transportation.org*, American Association of State Highway and Transportation Officials, 15 Sep. 2021.

project against those for a publicly procured project.[38] This analysis also creates a public sector comparator to estimate the life-cycle cost of a project using a traditional approach, estimates the cost, and completes an apples-to-apples comparison of the two approaches.

Often a P3 will appear more expensive when, over the long term, the opposite is true. For example, let's compare a traditional bid with a P3 bid to extend variably priced toll lanes on an Interstate highway for two miles. The conventional delivery bid is $60 million and the P3 bid is $71 million.[39] Yet the P3 includes a $21-million reduction due to risk-transfer and competitive neutrality as well as a net savings to the government of $9 million. (A competitive neutrality adjustment calculates the tax revenue lost in a traditional procurement compared with a P3.) As a result, the government has a 7% value for money. Table 6 breaks down the different funding options for both delivery methods.

TABLE 6: VALUE FOR MONEY ANALYSIS OF PUBLIC SECTOR AND P3 PROJECTS

Option	Public Sector	P3
Base Cost	$60M	$65M
Financing	$15M	$17M
Ancillary Costs	$11M	$15M
Retained Risk	$20M	$7M
Competitive Neutrality	$8M	$0M
Total	**$114M**	**$104M**

Source: Calculated by the authors based on information provided by Federal Highway Administration's Value for Money Analysis for P3s.

IIJA also added a new requirement for public sponsors that includes reviewing private sector compliance, certifying that the private party is adhering to the P3 terms, and notifying the public that a review has been conducted.[40] These steps are required for all projects worth more than $100 million. While having a process to monitor P3 projects is important, P3s have

www.policy.transportation.org/wp-content/uploads/sites/59/2021/09/2021-09-15-AASHTO-Comprehensive-Analysis-of-IIJA-FINAL.pdf (15 Feb. 2022).

38 "Value for Money Analysis for Public-Private Partnerships," Center for Innovative Finance Support, *fhwa.dot.gov*, 2022. www.fhwa.dot.gov/ipd/fact_sheets/p3_toolkit_03_vfm.aspx (31 Jan. 2022).

39 Ibid.

40 Fernando J. Rodriguez Marin, Nicolai J. Sarad, and Liam P. Donovan.. "Infrastructure Investment and Jobs Act: Selected Changes Impacting Public-Private Partnerships." *The National Law Review*. (24 Nov .2021) *National Law Review Online*. www.natlawreview.com/article/infrastructure-investment-and-jobs-act-selected-changes-impacting-public-private (15 Feb. 2021).

not been a risky endeavor. Not a single P3 has needed to be bailed out by U.S. taxpayers.[41] While it is unclear exactly what DOT will require, the provision seems unnecessary.

> *Not a single P3 has needed to be bailed out by U.S. taxpayers.*

The bill also authorizes grants to help increase the number of P3s.[42] Section 71001 of IIJA establishes the asset concessions and innovative finance assistance program, and authorizes technical assistance grants that can be used for the following:

- Feasibility Studies
- Revenue Forecasting
- Cost-Benefit Analysis
- Other Economic Assessments
- Public Benefit Studies
- Value-for-Money Analysis
- Business Case Development
- Life-Cycle Cost Analysis
- Risk Assessment
- Financing and Funding Options Analysis
- Procurement Alternative Analysis
- Statutory and Regulatory Framework Analysis
- Financial and Legal Planning
- Early Assessment of Environmental Review
- Assistance Entering into an Asset Concession

41 "Public Private Partnerships (P3s)," Federal Highway Administration Center for Innovative Finance Support, *fhwa.dot.gov*, 2022. https://www.fhwa.dot.gov/ipd/p3/ (28 Feb. 2022).

42 Rodriguez Marin, et al., "Infrastructure Investment and Jobs Act."

DOT is required to ensure that using an asset concession to rebuild a highway does not make it more challenging to build that project. And the costs of the project cannot be shifted to any taxpayer with an annual household income of $400,000 per year or less. It is unclear how DOT will interpret that provision.

Further, the usefulness of the Asset Concession grants may be limited as the Build America Bureau already provides a wealth of information on P3s. However, any process that educates public and private entities on P3s is a positive.

5.1.2 IIJA AND TIFIA

Congress created the TIFIA program to provide low-interest credit support for projects with dedicated revenue sources that can qualify for investment-grade ratings.[43] Although the law currently allows a TIFIA loan to cover up to 49% of a project's total cost, the TIFIA office within DOT has not awarded any loans exceeding 33%. (USDOT officials note that a project would have to be "truly exceptional" to receive a loan exceeding 33%.) This is consistent with the law's original intent that TIFIA provide gap financing rather than being a project's primary source of debt finance. It also enables a given TIFIA budget allocation to support a larger total number of projects. Accordingly, TIFIA loans often are subordinated debt, which means senior loans or bonds are the first to receive project revenue. Only in the event of bankruptcy does the TIFIA loan shift to having equal status with other creditors.

While the IIJA keeps TIFIA program funding steady at approximately $250 million per year, the legislation has made a number of programmatic changes. One of the most promising changes is a requirement for DOT to create a streamlined application process for projects that can begin within 90 days after a TIFIA loan is awarded.[44] This provision addresses one of the biggest problems with TIFIA: the time from loan application to loan award. This reform could decrease loan processing time by 50%.

Earlier in 2021, USDOT took steps to speed up loan processing by creating TIFIA Lite. Under this program experienced borrowers with strong credit and small, shovel-ready projects can use an expedited application process.[45] The accelerated process uses a loan template with

[43] "Program Overview," Build America Bureau, *transportation.gov*, 29 Nov. 2021. www.transportation.gov/buildamerica/financing/tifia (15 Feb. 2022).

[44] "AASHTO Comprehensive Analysis of the Bipartisan Infrastructure Bill," *policy.transportation.org*.

[45] "TIFIA Lite," Build America Bureau, *transportation.gov*, 28 Jun. 2021 www.transportation.gov/buildamerica/financing/tifia/lite (15 Feb. 2022).

standard terms to forgo the sometimes lengthy back and forth negotiations between the office and the applicant. Those loans are limited to $100 million.

Earlier in 2021, USDOT took steps to speed up loan processing by creating TIFIA Lite. Under this program experienced borrowers with strong credit and small, shovel-ready projects can use an expedited application process.

The TIFIA office has been under congressional pressure since the passage of the Moving Ahead for Progress for the 21st Century (MAP-21) reauthorization bill in 2012 to expedite awarding loans.[46] Rather than treat TIFIA as a check-the-box process as Congress intended, USDOT had turned TIFIA into a discretionary program. Only time will tell if these changes speed up the application process, but the fact that DOT finally recognized the problem by creating TIFIA Lite before Congress intervened with IIJA is encouraging. The changes also extend the timeframe when contingent commitments must result in financial close from three to five years.[47] This change will make TIFIA more attractive for larger, more complicated deals that have multiple funding and financing sources.

Unfortunately, Congress also made one problematic change. It increased eligibility to transit-oriented development, airport projects, and wildlife acquisition activities.[48] To be sure, each of these project types can benefit from TIFIA loans. But TIFIA's $250 million annual funding in the IIJA is far below its $1 billion annual funding in 2014 and 2015.[49]

46 William Mallett, "The Transportation Infrastructure Finance and Innovation Act (TIFIA) Program." *crsreports.congress.gov*, CRS Reports, 2022. www.crsreports.congress.gov/product/pdf/R/R45516 (15 Feb. 2022).

47 Ibid.

48 Rodriguez Marin et al., "Infrastructure Investment and Jobs Act."

49 Jeff Davis, "Was the FAST Act's 70 Percent Cut in TIFIA Funding Justified?" *enotrans.org*, The Eno Center for Transportation. 16 Dec. 2015. www.enotrans.org/article/22938/ (15 Feb. 2022).

Limited appropriations, combined with a steady stream of projects and an expedited review process, means TIFIA loans can finance a shrinking share of eligible projects.

> *Only time will tell if these changes speed up the application process, but the fact that DOT finally recognized the problem by creating TIFIA Lite before Congress intervened with IIJA is encouraging.*

5.1.3 IIJA AND PABS

PABs are especially useful to P3 projects because they are tax-exempt bonds that would not normally be available to projects that expect to earn a return on equity investments.[50] Congress authorized PABs for P3 surface transportation projects on the grounds that, since these projects serve the public, public sector entities should not have a built-in financial advantage over private sector entities. By exempting interest income on these PABs from taxation, revenue bonds issued for P3 projects as PABs will carry interest rates similar to those available for the revenue bonds of state toll agencies.

After almost 10 years of lobbying, Congress finally increased the PAB cap from $15 billion to $30 billion in the IIJA.[51] Since the law has taken effect, USDOT has allocated more than $16 billion, which it could not have programmed without a doubling of the cap.[52]

50 Aidan Vining, Anthony E. Boardman, and Finn Poschmann, "Public-Private Partnerships in the US and Canada: Case Studies and Lessons 1." *International Public Procurement Conference Proceedings*, *ResearchGate*, 2004. www.researchgate.net/publication/237477965_PUBLIC-PRIVATE_PARTNERSHIPS_IN_THE_US_AND_CANADA_CASE_STUDIES_AND_LESSONS1 (15 Feb. 2022).

51 "AASHTO Comprehensive Analysis of the Bipartisan Infrastructure Bill," *policy.transportation.org*.

52 "Private Activity Bonds," United States Department of Transportation Build America Bureau, *transportation.gov*, 24 Feb. 2022. https://www.transportation.gov/buildamerica/financing/private-activity-bonds (28 Feb. 2022).

After almost 10 years of lobbying, Congress finally increased the PAB cap from $15 billion to $30 billion in the IIJA.

The IIJA also expands PAB eligibility to broadband and carbon dioxide capture and sequestration.[53] For the next few years there will be plenty of room under the PAB cap. But the expanding number of uses will put pressure on Congress to adjust the cap in the future. The cap was originally instituted because PAB skeptics argued that demand for PABs might be low. Given the demonstrated importance of PABs in financing megaprojects, eliminating the cap would be a pragmatic, long-term solution.

Table 7 lists all current PABs and TIFIA loans for P3 surface transportation projects through the end of calendar year 2021.

TABLE 7: HIGHWAY AND TRANSIT PROJECTS FINANCED BY TIFIA AND PABS

Project	Year Originally Financed	TIFIA ($M)	PABs ($M)	Total Project ($M)
Pocahontas Parkway (VA)	2007	$150	$0	$597
SH 130, 5 & 6 (TX)	2007	$430	$0	$1,328
I-495 HOT Lanes (VA)	2008	$589	$589	$2,068
I-595 Express (FL)	2009	$603	$0	$1,834
Port of Miami Tunnel (FL)	2009	$341	$0	$1,113
NTE Phases 1 and 2W (TX)	2010	$650	$398	$2,122
LBJ Express (TX)	2010	$850	$606	$2,645
Denver Eagle P3 Rail (CO)	2010	$280	$396	$2,043
South Bay Expressway (CA)	2011	$140	$0	$658
Midtown Tunnel (VA)	2012	$422	$675	$2,089
Presidio Parkway II (CA)	2012	$150	$0	$852
I-95 Express (VA)	2013	$300	$253	$923
NTE Phase 3A, 3B and 3C (TX)	2013	$531	$274	$2,327
Goethals Bridge (NY/NJ)	2013	$474	$453	$1,436
US 36, Colorado Phase 2 (CO)	2014	$60	$21	$208.4

[53] "AASHTO Comprehensive Analysis of the Bipartisan Infrastructure Bill."

Project	Year Originally Financed	TIFIA ($M)	PABs ($M)	Total Project ($M)
I-69 Indiana (IN)	2014	$0	$244	$560
I-4 Ultimate (FL)	2014	$950	$0	$2,877
East End Bridge (IN)	2015	$162	$508	$1,319
PA Rapid Bridge Replacement (PA)	2015	$0	$722	$1,118
I-77 Express Lanes (NC)	2015	$189	$100	$636
Portsmouth Bypass (OH)	2015	$209	$227	$646
SH 288 Toll Lanes (TX)	2016	$357	$299	$1,064
MD Purple Line (MD)	2016	$875	$313	$2,650
Transform 66 (VA)	2017	$1,229	$737	$3,724
Moynihan Train Hall (NY)	2017	$526	$0	$1,850
Central 70 (CO)	2018	$416	$121	$1,271
I-75 Modernization Segment 3 (MI)	2018	$0	$610	$1,400
I-95 Fredericksburg Express Lanes (VA)	2019	$0	$262	$830
TOTAL		**$10,883**	**$7,808**	**$42,188**

Source: Projects financed by TIFIA and Private Activity Bonds on Transportation.gov

As the table shows, $11.4 billion in TIFIA loans led to approximately $44 billion in project activity over the past 15 years. PABs had a similar effect: $7.8 billion in PABs helped make that $44 billion in project activity a reality. Compare TIFIA and PABs to federal grants that provide 50%–90% of a project's cost. If a grant covers 70% of the project costs, in order to receive the same benefit of $11.4 billion of TIFIA loans, more than $27.8 billion of grants will need to be disbursed to achieve an equivalent amount of investment. Clearly, TIFIA loans and PABs are more than useful financing tools. They also allow lower taxpayer expenditures compared with direct grant funding and stretch those taxpayer dollars further.

5.1.4 IIJA AND TOLLING POLICY

The IIJA has several new tolling programs. The $250-million congestion relief program ($50 million per year) allows states to use cordon pricing or congestion pricing for up to 10 Interstate segments.[54] The program limits DOTs to charging tractor trailers more than five

[54] "U.S. Senate Approves the Infrastructure and Jobs Act: A Summary and Analysis for the Toll Industry," *ibtta.org*, International Bridge Tunnel and Turnpike Association, 17 Aug. 2021. https://www.ibtta.org/sites/default/files/documents/Advocacy/GA049-IBTTA%20Infrastructure%20INvestment%20and%20Jobs%20Act%20Bill%20Summary%202021-0817.pdf (28 Feb. 2022).

times the rate of automobiles. Program funding can be used for other purposes such as parking pricing and multi-modal stations. The toll credit marketplace will be created to assess the benefits of states selling toll credits.[55] The selling state may use the proceeds for any highway-related project. The buying state may use the credit for the state- or local-match to any highway-related project. Finally, the bill guarantees that over-the-road buses have the same access to HOV- and HOT-lanes as transit buses.[56]

This outcome could be considered a win for tolling proponents, as the House-passed Moving Forward bill restricted tolling.[57] While the American Automobile Association national board and several state chapters of the American Trucking Association have dropped their hostility to tolling, there is resistance to allowing states to toll and rebuild their Interstate systems.[58]

5.2 OVERVIEW OF FINANCING TOOLS

Federal support for surface transportation P3s comes largely from several entities within the Federal Highway Administration (FHWA) in the U.S. Department of Transportation (USDOT).

The Center for Innovative Finance Support (CIFS—previously the Office of Innovative Program Delivery), which provides vital support for P3s, is housed within the larger Office of Innovative Program Delivery; both entities are units of FHWA. The center was created during the George W. Bush administration and expanded under both the Obama and Trump administrations, developing a large array of educational and analytical materials to assist state DOTs and others in getting up to speed on innovative finance and P3s in transportation infrastructure. CIFS is also likely to provide guidance on Asset Concession grants.[59] Table 8 details the P3 toolkit provided by the center.

55 Ibid.

56 Ibid.

57 "How We Are INVESTing in America," *transportation.house.gov*, The House Committee on Transportation and Infrastructure. 2021. https://transportation.house.gov/invest-in-america (31 Jan. 2022).

58 Kathleen Bower, "AAA Supports Tolling in Certain Situations," Email, Dec. 2015.

59 Rodriguez Marin, et al., "Infrastructure Investment and Jobs Act."

TABLE 8: CENTER FOR INNOVATIVE FINANCIAL SUPPORT TOOLS

Program Category	Tool	Purpose
Publications	Fact Sheets	Provides overview of key P3 elements
	Primers	Details in-depth explanations of specific elements of P3 projects
	Model Contract Guides	Provides overview of P3 contracting process and best practices
	Other Guides	Covers miscellaneous topics from the federal review process and financing
	Reports, Discussion Papers	Provides in-depth analysis of policies, case studies and other policy assessments
Analytical Tools	P-3 Value	Provides spreadsheet-based calculation tools for conducting feasibility assessments of potential P3 projects including risk assessment, value for money, benefit/cost analysis and financial analysis
	P-3 Screen	Provides a checklist of key factors and analyses involved in making decisions about possible P3 procurements
	Contracting Alternatives Suitability Evaluator	Evaluates and aids in selecting the most effective short and long-term alternative contracting methods
Webinars	Recordings	Documents and recordings that enhance toolkit materials
Programs	SEP-15	Explains experimental new process for the FHWA to evaluate P3 project delivery with four major components: contracting, compliance with environmental requirements, right-of-way acquisition and project finance
	Build America Bureau	The Bureau provides access to and credit and grants
	BATIC Institute	The BATIC Institute facilitates coordination and information-sharing of public projects
	TIFIA	Transportation Infrastructure Finance and Innovation Act provides credit assistance to select projects of regional importance
	PABs	Provides tax-exempt debt instruments authorized by USDOT on behalf of private entities for highway and freight projects
	GARVEEs	Allows a state DOT to issue debt that will be repaid with future federal-aid highway funding

Source: The Center for Innovative Finance Support's website: https://www.fhwa.dot.gov/ipd/p3/

Stressing the importance of increasing infrastructure investment, former Secretary of Transportation Anthony Foxx created the Build America Transportation Investment Center (BATIC), which aims to speed up the time it takes for transportation P3s to reach financial close.[60] The American Association of State Highway & Transportation Officials (AASHTO)

[60] Anthony, Foxx, "Removing the Roadblocks to Smarter Investment in American Transportation," *mckinsey.com*, McKinsey & Company 1 June 2015. www.mckinsey.com/business-functions/

launched the BATIC Investment Center as a new center of excellence to assist state DOTs in capacity-building in the area of project finance and P3s. The Center hosts multiple events throughout the country educating policymakers on transportation financing.

5.3 OTHER FEDERAL TOLLING POLICY

States are banned from imposing tolls on existing Interstate lanes or rebuilding an Interstate highway and imposing tolls on lanes that previously were untolled. However, they can implement four types of tolling projects. While these options don't *require* P3s, many tolling projects are P3s.

> *Many large metro areas—including Atlanta, Dallas, Denver, Houston, Los Angeles, San Francisco, San Diego, Seattle, South Florida, and Washington, D.C.—plan to build networks of variably priced managed lanes.*

The first and most popular option is for states to add variably priced managed lanes, which price lanes dynamically to manage congestion and maintain high throughput.[61] Some are conversions from poorly operating high-occupancy vehicle (HOV) lanes, while others are new construction. Many large metro areas—including Atlanta, Dallas, Denver, Houston, Los Angeles, San Francisco, San Diego, Seattle, South Florida, and Washington, D.C.—plan to build networks of variably priced managed lanes. While these lanes work best in urban areas, a Reason study highlighted several Interstate corridors that pass through more-rural areas in which variably priced lanes may be feasible.[62]

operations/our-insights/removing-the-roadblocks-to-smarter-investment-in-american-transportation (15 Feb. 2022).

61 States adding managed lanes include California, Colorado, Florida, Georgia, Maryland, Minnesota, North Carolina, Texas, Utah, Virginia, and Washington State.

62 Baruch Feigenbaum, "Managed Lanes Connecting Metro Areas: The Pragmatic Solution," Reason Foundation, 2019. www.reason.org/wp-content/uploads/managed-lanes-between-metro-areas-the-pragmatic-solution.pdf (15 Feb. 2022).

The second option is the FHWA Value Pilot Pricing Program (VPPP), which allows a state to charge variable tolls on all lanes of an Interstate to reduce congestion.[63] Oregon has applied for the program to put variable tolls on all lanes of I-5 in the Portland region. In November 2021 the state began planning for the project, inviting community feedback through local workshops as the state department of transportation awaits approval for the program.[64] There is no limit on the number of slots/roadways that can take part in the VPPP.

The third option is the Interstate System Reconstruction and Rehabilitation Pilot Program (ISRRPP), which allows a state to use toll financing to rebuild one of its Interstate highways.[65] Currently, there are three slots open in the program. Since congestion is worst in urban areas, the Value Pricing Pilot Program is a better fit in urban regions, while the ISRRPP is a better choice to rebuild a long-distance corridor.

Since congestion is worst in urban areas, the Value Pricing Pilot Program is a better fit in urban regions, while the ISRRPP is a better choice to rebuild a long-distance corridor.

The fourth option is for states to rebuild their untolled bridges and tunnels with tolled bridges and tolled tunnels using a provision in the 1998 Transportation Equity Act for the 21st Century (TEA-21).[66] There is no limit on the number of bridges and tunnels that can be

63 Value Pricing Pilot Program." *ops.fhwa.dot.gov*, U.S. Department of Transportation Federal Highway Administration. 2021. www.ops.fhwa.dot.gov/congestionpricing/value_pricing/index.htm (15 Feb. 2022).

64 Scott Keillor, Lucinda Broussard, and Garet Prior, "Oregon Toll Program Region 1 Area Commission on Transportation+ Toll Work Group Meeting #2," Oregon Department of Transportation, *Oregon.gov*, 1 Nov 2021. www.oregon.gov/odot/Get-Involved/Documents/110121-R1ACtplus-presentation.pdf (15 Feb. 2022).

65 "Interstate System Reconstruction and Rehabilitation Pilot Program," U.S. Department of Transportation Federal Highway Administration, *fhwa.dot.gov*, October 2018. www.fhwa.dot.gov/ipd/tolling_and_pricing/tolling_pricing/interstate_rr.aspx (31 Jan. 2022).

66 Robert S. Kirk, "Tolling U.S. Highways," Congressional Research Service, *crsreports.congress.gov*, 4 Aug 2017. www.sgp.fas.org/crs/misc/R43575.pdf (15 Feb. 2022).

rebuilt using tolling. (A state can impose tolls on reconstructed bridges and tunnels on its Interstate system but cannot do the same for Interstate segments that do not include bridges and tunnels.) Rhode Island, which has the largest percentage of structurally deficient bridges in the country, tolls trucks (but not light-duty vehicles) to use 12 bridges or bridge-groups in the state.[67] Rhode Island's stated goal is to bring the bridges to a state of good repair by 2025. FHWA approved the toll truck program in 2016, leading to an ongoing lawsuit from the American Trucking Associations challenging the constitutionality of tolling trucks but not cars.[68]

Other states are developing toll plans in hopes that the federal ban on states tolling their Interstates is repealed. Connecticut proposed and then abandoned a plan to toll trucks on 12 sites throughout the state.[69] Indiana and Wisconsin examined the technical and political feasibility of rebuilding their Interstates via tolling.[70] Michigan is conducting a similar feasibility study in 2022.[71]

67 "The RhodeWorks Tolling Program," Rhode Island Department of Transportation, dot.ri.gov. 31 Jan. 2022. www.dot.ri.gov/tolling/index.php (15 Feb. 2022).

68 "ATA Sues Rhode Island Over Unconstitutional Truck Toll Program," *trucking.org*, American Trucking Associations. 9 July 2018, www.trucking.org/news-insights/ata-sues-rhode-island-over-unconstitutional-truck-toll-program (15 Feb. 2022).

69 "Connecticut Governor Drops Plans for Tolls on Highways Including Interstate 684." *lohud.com*, Lohud.,20 Feb. 2020. www.lohud.com/story/news/local/westchester/2020/02/20/connecticut-governor-ned-lamont-drops-plan-tolls-highways-684/4817501002/ (15 Feb. 2022).

70 "Statewide Interstate Tolling Strategic Plan," Indiana Department of Transportation, *in.gov*, Nov. 2018. www.in.gov/indot/files/tolling_strategic_plan.pdf (15 Feb. 2022).

71 "State of Michigan Tolling Study (PA 140 of 2020)," House Appropriations Subcommittee on Transportation, *house.mi.gov*, 28 Apr. 2021. www.house.mi.gov/hfa/PDF/Transportation/Transportation_Subcmte_Presentation_HNTB_4-28-21.pdf. (15 Feb. 2022).

PART 6

P3 LEGISLATION AND HIGHWAY ACTIVITY PER STATE

6.1 OVERVIEW OF STATE P3 LEGISLATION

The FHWA Center for Innovative Finance Support lists 37 states, the District of Columbia, and Puerto Rico as jurisdictions that have P3 authority for transportation infrastructure.[72] However, the enabling acts vary in authority provided from state to state. Further, many of these states with authority have entered into DBFs or DBMs but not DBFMs or DBFOMs. Full P3s have been implemented in only 11 states, in Puerto Rico, and in projects under the auspices of the Port Authority of NY/NJ.

Legislators in the other states have failed to enter into P3s for one or more of several reasons: Some legislation contains language that makes entering into P3s a poor choice for the public partner, the private partner, or both; other states have had political challenges in which the governor or a state's legislative body was opposed to P3s. Other states have not found a project that is a good fit for a P3. Table 9 lists the type of P3 authority in states with authorizing legislation.

72 "State P3 Legislation." Center for Innovative Finance Support, *fhwa.dot.gov*, 2018. www.fhwa.dot.gov/ipd/p3/legislation/ (15 Feb. 2022).

TABLE 9: P3 STATES BY AUTHORITY

Broad Authorization	Restricted Authorization	States Entering into Full P3s
• Arizona • Colorado • District of Columbia • Delaware • Florida • Georgia • Illinois • Indiana • Kentucky • Louisiana • Maine • Maryland • Massachusetts • Michigan • Mississippi • Missouri • New Hampshire • New Jersey • Ohio • Oregon • Pennsylvania • South Carolina • Virginia • Washington • West Virginia	• Alabama • Alaska • Arkansas • California • Connecticut • Minnesota • Nevada • North Carolina • Oklahoma • Puerto Rico • Tennessee • Texas • Utah • Vermont • Wisconsin	• California • Colorado • Florida • Indiana • Maryland • Michigan • North Carolina • Ohio • Pennsylvania • Texas • Virginia • Port Authority of NY/NJ • Puerto Rico

Source: Center for Innovative Finance Support: State P3 Legislation. *FHWA.DOT.gov*.

6.2 2021 STATE LEGISLATIVE P3 ACTIVITY

Over the past year, six states debated bills establishing or expanding P3 authority. Table 10 summarizes that activity. The following section provides more details on all of the states' P3 activities.

TABLE 10: P3 LEGISLATIVE ACTIVITY BY STATE

State	Bill	Pass/Fail/Pending	Summary
Connecticut	SB 920	Signed by governor	Reauthorizes the governor's power to approve up to five transportation P3s
Connecticut	SB 754	Failed	Extends the state's ability to enter into additional types of P3s
Indiana	SB 166	Signed by governor	Expands transportation P3 options by allowing availability-payment projects
Minnesota	HF 2582/ SF 2421	Pending	Authorizes P3s for certain infrastructure projects
New Mexico	HB 55	Signed by governor	Authorizes public partners to enter P3 agreements, creates a P3 board, creates a P3 project fund
Nebraska	LB 1016	Signed by governor	Provides for P3s under the Transportation Innovation Act
Utah	SB 22	Signed by governor	Eliminates repeal date for P3 Act, eliminates contract length limit

Source: National Conference of State Legislatures

Connecticut: Senate Bill (SB) 920 was passed in 2021 by the Connecticut State House and State Senate, and signed into law by the governor.[73] The law makes a number of changes to the state's P3 statute. It restricts future P3 projects to the state Department of Transportation; it requires that P3 projects create jobs and generate economic development. The law removes the requirement that P3 projects be revenue-generating and the requirement that state support may not exceed 25% of the overall cost of the project. SB 754, which expanded the scope of the state P3s law, failed to move out of committee.

Indiana: SB 166 was passed in the Indiana Legislature in early 2022. The bill will allow for governmental bodies within the state to enter into public-private partnerships for transportation projects. The bill specifies that APs may be used for financing a project. It also allows for projects in which the governmental body agrees to design, construct, and/or finance a privately owned transportation project.[74] Governor Eric Holcomb signed the bill in March.

[73] Lawmakers Approve Long-Needed Public-Private Partnership Changes," *cbia.com*, The Connecticut Business and Industry Association, 8 June 2021. https://www.cbia.com/news/issues-policies/legislature-approves-public-private-partnership-changes/ (15 Feb. 2022).

[74] "Senate Bill No. 166," Indiana General Assembly, *iga.in.gov*, 2022. www.iga.in.gov/legislative/2022/bills/senate/166#document-d02f892f (15 Feb. 2022).

Minnesota: House File (HF) 2582/(SB) 2421 was introduced in the 2021 Minnesota State Senate legislative session. The bill authorizes P3s for certain infrastructure projects. The requirements for such projects are:

- A feasibility study is conducted with consultation procured through an open and competitive process,
- A public hearing is held with the results of the study, and
- Proposals are solicited.[75]

This would allow Minnesota to procure AP P3s, as current law limits the state to toll facilities and high-occupancy managed lanes.[76]

New Mexico: House Bill (HB) 55 was signed by Gov. Michelle Lujan Grisham in April. The bill authorizes P3s in the state pursuant to the P3 Act, which sets requirements for projects such as publishing notices of interest and undertaking cost-benefit analyses.[77] This widens New Mexico's P3 authority, which, prior to the passing of the bill, was not enabled for transportation infrastructure, municipal facilities, or environmental projects.[78] The bill does not allow for tolling.

Nebraska: LB 1016 was passed in the Nebraska Legislature's 2022 session. The bill authorizes P3s for projects under the Transportation Innovation Act.[79] This bill provides Nebraska's P3 authority, as the state does not have statutory authority for transportation, municipal, or environmental P3 projects.[80] Governor Pete Ricketts signed the bill in late April.

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75 "HF 2582 92nd Legislature (2021 - 2022)," Office of the Revisor of Statutes, *revisor.mn,gov*, 2021. www.revisor.mn.gov/bills/text.php?number=HF2582&version=0&session=ls92&session_year=2021&session_number=0 (15 Feb. 2022).

76 "P3 Snapshot: Minnesota, Summary of P3 Legislative Status," *aiai-infra.info*, Association for the Improvement of American Infrastructure, 2022. www.aiai-infra.info/legislative-snapshot/minnesota/ (10 Feb. 2022).

77 "House Bill 55," 2021, 55th Legislature State of New Mexico, *nmlegis.gov*, 2022. www.nmlegis.gov/Sessions/22%20Regular/bills/house/HB0055.pdf (15 Feb. 2022).

78 "P3 Snapshot: New Mexico, Summary of P3 Legislative Status," *aiai-infra.info*, Association for the Improvement of American Infrastructure, 2022. www.aiai-infra.org/legislative-snapshot/new-mexico/ (10 Feb. 2022).

79 "LB 1016 Provide for Public Private Partnerships Under the Transportation Innovation Act," Nebraska Legislature, *nebraskalegislature.gov*, 2022. www.nebraskalegislature.gov/bills/view_bill.php?DocumentID=47234 (15 Feb. 2022).

80 "P3 Snapshot: Nebraska, Summary of P3 Legislative Status," *aiai-infra.info*, Association for the Improvement of American Infrastructure, 2022. www.aiai-infra.info/wp-content/uploads/NE-Snapshot-SUMMARY.pdf (10 Feb. 2022).

Utah: SB 22 was approved in the 2022 legislative session. The bill eliminates a repeal date for the P3 Act as well as a provision that limits P3 contract lengths. The bill also allows the Governor's Office of Economic Opportunity to act as a facilitator in projects or contracts that roll out.[81] The elimination of the repeal date prolongs the state's current P3 authority, and the elimination of the contract length limit expands the state's P3 abilities to adopt longer-term projects. Governor Spencer Cox signed the bill in late March.

6.3 STATE CONCESSION ACTIVITY

Two states had major proposed highway concession activity in 2021, detailed in this section.

TABLE 11: MAJOR STATE SURFACE TRANSPORTATION P3 CONCESSION ACTIVITY

Project	Location	Status	Cost $ (B)	Type	Duration	Concessionaire
LA I-10 Extension	Los Angeles, CA	Pre-Launch	N/A	TBD	33-month	TBD
Colorado I-70 Tunnel	Idaho Springs, CO	Transaction Launched	$0.7	DBFOM RR	12-14 month	TBD

Source: Inframation Infrastructure News

California: In February of 2021, LA Metro and the California Department of Transportation (Caltrans) authorized a contract to add tolled express lanes to Los Angeles' I-10. The project is a part of a 28-project request by L.A. Mayor Eric Garcetti with the objective of alleviating traffic congestion before the city hosts the 2028 Olympics.[82] The project is expected to complete reports considering different build and procurement options by Q4 of 2023.

81 "SB22 Public-private Partnership Amendments," Utah State Legislature, *le.utah.gov*, 2022 www.le.utah.gov/~2022/bills/static/SB0022.html (11 Feb. 2022).

82 "Los Angeles I-10 ExpressLanes Extension. *inframationnews.com*, Inframation, 2022. www.inframationnews.com/deals/7960986/los-angeles-i-10-expresslanes-extension.thtml (5 Feb. 2022).

Colorado: In October of 2021, the Colorado High Performance Transportation Enterprise completed a tolling and revenue study on the Floyd Hill I-70 Tunnel. The proposed project will add either a tunnel or a viaduct on westbound I-70, improving safety and travel time in the area.[83] The project is currently expected to move forward with preliminary design as funding options are explored.

[83] "Colorado I-70 Floyd Hill to Veterans Memorial Tunnel," *inframationnews.com*, Inframation, 2022. inframationnews.com/deals/3941796/colorado-i-70-floyd-hill-to-veterans-memorial-tunnel.thtml (5 Feb. 2022).

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