U.S. INFRASTRUCTURE MARKET INTELLIGENCE REPORT

BUILDING FOR THE FUTURE

Infrastructure opportunities for Canadian companies in the U.S.

EDC's Global Business Development
U.S. infrastructure team
December 2023

Canada

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TAKE ON THE WORLD

CONTENTS

EXECUTIVE SUMMARY

Export Development Canada's (EDC) Global Business Development (GBD) U.S. infrastructure team provides Canadian companies with in-depth market intelligence to navigate ever-changing circumstances in the U.S. infrastructure marketplace. This report is the first in a series of up-to-date resources to enable informed decision-making for Canadian companies that are interested in entering the U.S. market or continue growing their presence.

This report is broken down into two sections:

- **Section 1** provides background information about the infrastructure landscape in the U.S.; how infrastructure is funded between levels of government/jurisdictions; and gaps in U.S. infrastructure where investment opportunities are needed.
- **Section 2** provides a breakdown of current trends for Canadian companies to explore in five focus areas:
    1. Federal laws, programs, and initiatives
    2. *Bipartisan Infrastructure Law* (BIL) funding
    3. Overview of favourable states for infrastructure investment (through different lenses)
    4. Recent state-level legislation; and
    5. Emerging themes in the U.S. infrastructure market

U.S. INFRASTRUCTURE MARKET CHALLENGES & CONTEXT

Actions that impact the future of the U.S. infrastructure market are made every day by a variety of government and non-government organizations, including federal legislative branches in Washington D.C.; state legislatures in all 50 U.S. capitols; city halls and municipal-level governments; and boardrooms of corporate America and industry associations.

A variety of challenges affect the U.S. infrastructure market—including regulatory changes, supply chain disruptions, skills shortages, economic instability, and the energy transition. But the most prominent challenge is historical underfunding of infrastructure, driven by significant population growth since the 1960s. Experts say many infrastructure systems are reaching the end of their lifespan and are dangerously overstretched.

The American Society of Civil Engineers (ASCE) has compiled regular "report cards" on the state of U.S. infrastructure since the 1980s. In its 2021 report[1], the ASCE found that there's an "infrastructure investment gap" of nearly US$2.6 trillion this decade that, if unaddressed, could cost the United States US$10 trillion in lost gross domestic product (GDP) by 2039.

These challenges present Canadian companies with many investment and partnership opportunities, but to take advantage of these opportunities, it's critical to consider nuances across different regional markets within the U.S.:

[1] American Society of Civil Engineers, 2021-IRC-Executive-Summary-1.pdf (infrastructurereportcard.org)

- The **Northeast region** boasts a diverse collection of large metropolitan centres and legislative measures that support clean energy and public transit.
- The **Great Lakes and Midwest region** is particularly attractive for Canadian companies due to its position in the U.S. manufacturing sector and many infrastructure opportunities. The region is home to a concentration of electric vehicle (EV) manufacturing firms, rail car industry, as well as various Fortune 1000 companies.
- The **Southeast region** presents opportunities for Canadian exporters in sectors such as electric vehicles, education, and waste-to-energy.
- The **Southwest region** offers a business-friendly environment for Canadian companies. Several states, including Utah, Colorado, Arizona, and New Mexico, are home rule states (cities that have broad authority to conduct their affairs). Texas, the largest market in the region, has a robust economy and favourable business climate.

CURRENT TRENDS

Focus No. 1: Federal laws, programs and initiatives

Recent federal legislation has opened the door to more investment opportunities for Canadian businesses, including:

- ***The Bipartisan Infrastructure Law (BIL)***, which authorizes US$1.2 trillion for infrastructure spending through 2026 and is expansive in its reach, addressing transportation, energy and power infrastructure, broadband, and water infrastructure.
- ***The Inflation Reduction Act (IRA)***, which directs nearly US$400 billion through a mix of tax incentives, grants, and loan guarantees toward reducing the nation's carbon emissions by 2030.

Focus No. 2: BIL funding gaps

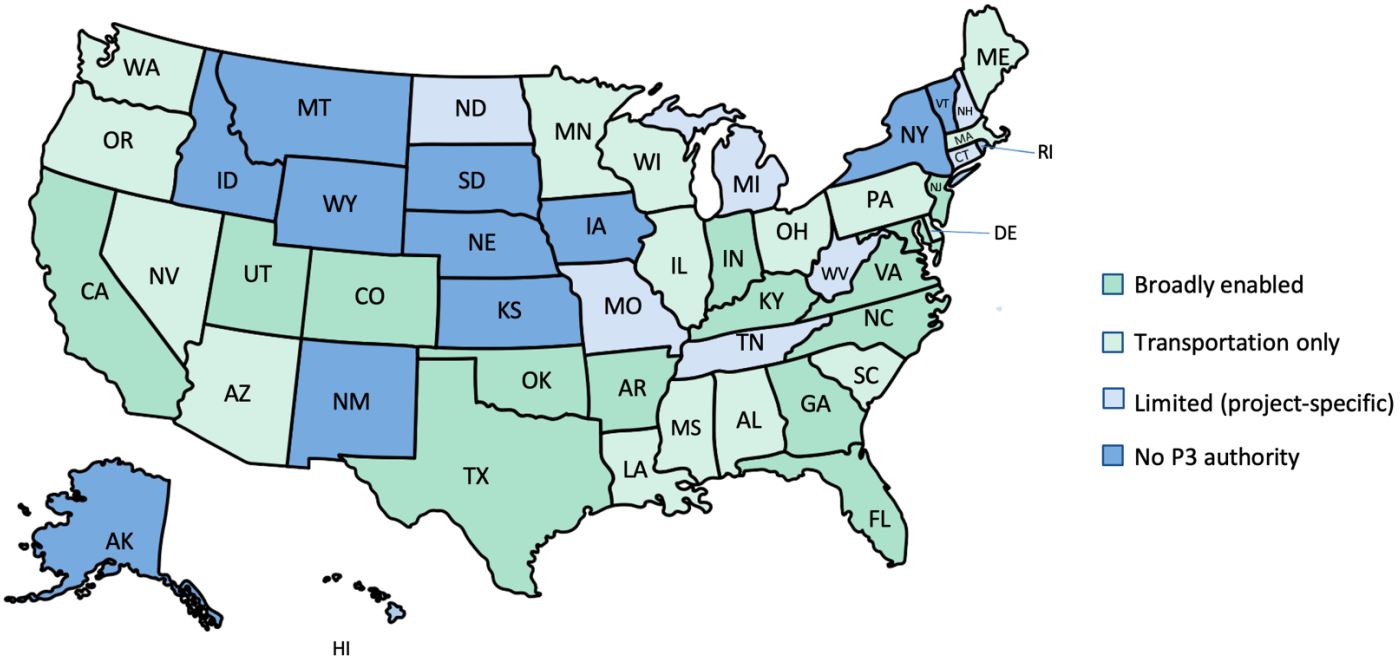
EDC analyzed the BIL on a state-by-state basis, reviewing funding announcements vs. awarded funding in five states: California, Illinois, New York, Florida, and Texas. The analysis suggests that a majority of the federal BIL announced funding has yet to be awarded.

The announced versus awarded gap is likely a result of how BIL funding is programmed. When analyzing the largest category of BIL funding, transportation funding is increasingly programmed in the years 2024-2026. Canadian companies can expect to see a greater pipeline of awarded projects and projects coming to market in future years—this is an area to keep an eye on.

Focus No. 3: Favourable states for infrastructure investment

EDC analyzed U.S. states through various lenses to assess, which may be more favourable for Canadian business investment.

The following heat map provides an overview of states with Public-Private Partnerships (P3) enabling legislation.



P3-enabling statutes in the U.S. give states authority to use P3s in project delivery. Some states have broadly enabled P3 legislation, while others are limited, have no P3 authority, or have authority, but only in the transportation sector. The "broad" category is defined to include authority to a wide number of agencies and projects, while the "limited" category describes laws written only for a restricted number of eligible projects or agencies.

Focus No. 4: Recent state legislation

Legislative bills are routinely being brought forward across all 50 state legislatures, as well as the U.S. Congress and Senate. Staying current on ongoing legislative changes in the U.S. can provide a first-mover advantage to Canadian businesses—a service EDC's GBD U.S. Infrastructure team provides.

EDC has tracked legislative manoeuvres since the start of the calendar year, finding movement in the following jurisdictions:

- **Washington**, HB1777: P3 contracting for energy services and equipment, which would allow local governments, school districts and the state to enter long-term P3s to provide energy services for buildings.
- **New York**, electric vehicle (EV) charging legislation that would enable building more charging stations in high-density areas and incentivize more EVs.
- **Tennessee**, SB 273: *Transportation Modernization Act*, which would create a new strategy and invest US$3.3 billion to accommodate Tennessee's record growth, address traffic congestion and meet transportation needs across rural and urban communities.
- **Maryland**, SB 0781: *Power Act*, which sets a goal of 8.5 gigawatts of offshore wind by 2031, more than quadrupling Maryland's current two gigawatts.
- **Kentucky**, SB 169: School P3s, which authorizes local boards of education to engage in P3s.

- **Mississippi**, SB 2562: EV Charging P3s, an act to allow for P3s to establish electric-vehicle (EV) charging stations.

Focus No. 5: Emerging themes

Five themes are emerging from the U.S. market that EDC will continue monitoring:

1. **The rise of small P3s (i.e., sub-US$100 million) opportunities**—community-based, social infrastructure projects—and **a diversification of P3 players**, including municipalities of less than 250,000, independent and county school districts, universities and colleges, water districts, local/regional airports, etc.
2. **Asset monetization/recycling**, a way to fund infrastructure that makes cash available sooner, thus enabling investments in new infrastructure while funding ongoing maintenance needs.
3. The **proposed creation of a Federal Infrastructure Bank**, which would facilitate investment and long-term financing of public infrastructure.
4. **Decarbonization and renewable energy**, which are expected to continue growing in the next three decades as the country strives to reach net zero emissions across all sectors.
5. **Digitizing transportation**, which will be enabled by a set of policies, investments, and partnerships that enable technologies, data systems, research and development, technology transfer and workforce development.

KEY TAKEAWAYS FOR CANADIAN COMPANIES

1. **Stay up-to-date about state and federal legislation and regulatory** changes affecting U.S. infrastructure, including the proposed creation of a Federal Infrastructure Bank, the future of asset monetization/recycling, labour requirements, the energy transition, and Buy America guidelines.
2. **Network and team with state minority and disadvantaged-based enterprises (MBE/DBE)** in pursuing bid opportunities, which is key to doing business in the U.S. as the country's population leverages talent from its diverse populations.
3. **Stay current on the rise of smaller P3 projects** and the diversification of P3 players and prepare to identify project financing solutions for sub-US$100-million projects.
4. **Have good in-depth market intelligence** about the capital programs that the local and state agencies will undertake over the next 10 years; metropolitan planning organizations (MPOs) are an invaluable source of data and information on long-range transportation plans in major U.S. metropolitan areas.
5. **Strategize for the digitization of U.S. infrastructure**, particularly in transportation. Billions of dollars from BIL funding programs are waterfalling into local, state, and tribal governments, as well as MPOs and universities.

INTRODUCTION

Infrastructure in the United States (U.S.) needs urgent attention. The American Society for Civil Engineers' 2021 report[2] on the sector estimates that in the past decade alone, U.S. spending on infrastructure rebuilding, upgrading, and maintenance fell short by US$2.6 trillion. This gap will balloon to almost US$10 trillion by 2039 if the neglect continues.

Recognizing the severity of the shortfall, the U.S. government is trying to turn things around with a major funding program, plus a low-cost financing program. The first, the *Bipartisan Infrastructure Law* (BIL), allocates US$1.2 trillion in funding for rebuilding and upgrading four key sectors. The second, the US$400-billion *Inflation Reduction Act* (IRA), is intended to provide essential low-cost project financing and tax credits.

But the colossal size of the sector also means that the U.S. doesn't have the domestic construction companies, labour force, equipment, or engineering and design capacity to meet its needs. Soon, the sector will see shortages of vital construction materials such as copper, lumber, aluminum and steel, and critical materials such as lithium, nickel, and cobalt for the energy transition.

Beyond federal funding and domestic shortages, other (more silent) manoeuvres are taking place beyond the headlines. For example, more and more U.S. states are passing legislation that advances infrastructure development; the U.S. Congress is once again exploring a Federal Infrastructure Bank; asset monetization/recycling is gaining momentum; and industry associations such as the Association for the Improvement of American Infrastructure (AIAI) are educating public officials on how to develop, procure, and administer market-accepted public-private partnerships (P3) projects through a P3 certification program. These examples signal new opportunities for Canadian businesses along the entire infrastructure spectrum.

Partnerships work best when the interests and values of the partners align.

Accordingly, Export Development Canada's (EDC) Global Business Development (GBD) U.S. infrastructure team is focused on:

- Bringing Canadian companies closer to these actions and decisions;
- Supporting Canadian companies proactively managing risks;
- Delivering financing support; and
- Providing strategic planning advice.

[2] American Society of Civil Engineers, 2021-IRC-Executive-Summary-1.pdf (infrastructurereportcard.org)

The purpose of this report is to deliver the **smartest** information in the **fastest**, most direct way possible, all with one goal in mind: To provide Canadian companies with actionable market intelligence to better position entry and/or continued growth of their business in the U.S. This report is packed with insights, analysis and more than 100 online resources into current and future project opportunities, budget, legislative, regulatory and funding information and dozens of useful tables, maps, charts and graphs outlining the U.S. infrastructure ecosystem, including (amongst other items):

- a listing of who to partner/network with, including industry associations, contractors, professional services firms, and municipal planning organizations; and
- a catalogue of legislation, asset ownership, funding, challenges with U.S. infrastructure, and disadvantaged/minority-based enterprise (DBE/MBE) spending goals.

Section 1 provides background information about the infrastructure landscape in the U.S.; how infrastructure is funded between levels of government/jurisdictions; and gaps in U.S. infrastructure where investment opportunities are needed.

Section 2 provides a breakdown of current trends for Canadian companies to explore in five focus areas:

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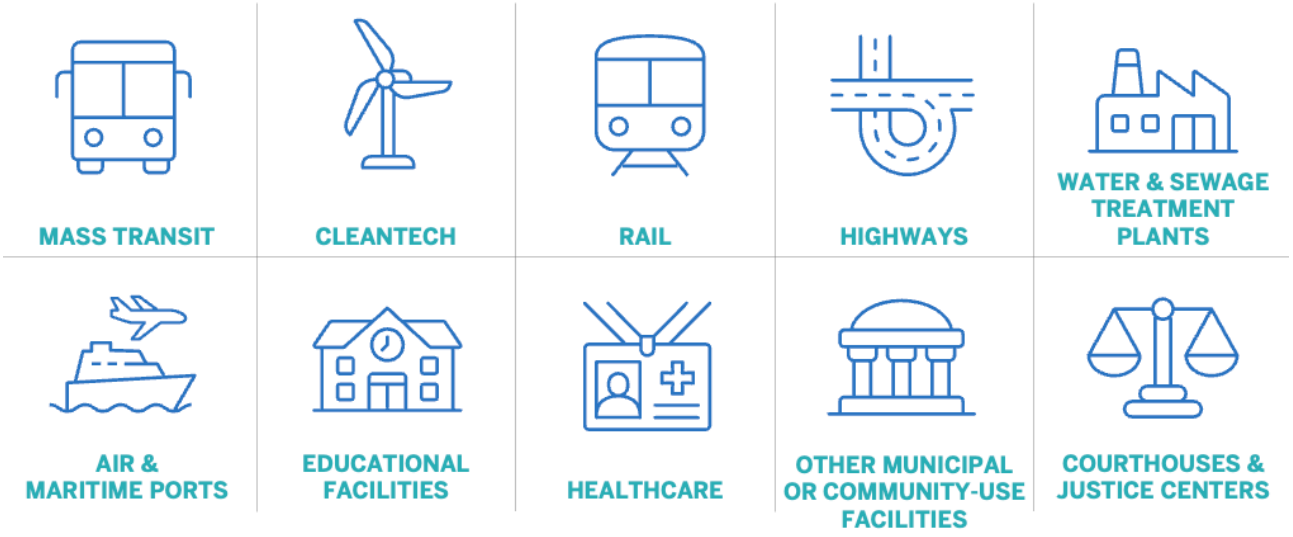
The report serves as a complementary piece to other EDC market intelligence, including:

- Building opportunities in the U.S. infrastructure sector
- Expanding your business south of the border
- Biden's Buy American plan at a glance

The information contained within this report only represents a fraction of the market intelligence our GBD U.S. infrastructure team has aggregated and continually updates. For more context, as well as up-to-date information and networking opportunities, please contact our team at USinfra@edc.ca

1. BACKGROUND: DEFINING U.S. INFRASTRUCTURE

Infrastructure is a building block of America's economy and provides the ability to move people and goods freely and efficiently. While there isn't a universal definition of infrastructure in the United States, for the purposes of EDC's U.S. infrastructure/cleantech strategy, we define U.S. infrastructure as the following:



Altogether, local, county, state, and federal investment and ownership has traditionally been concentrated on the systems supporting these areas. Conversely, private sector investment and ownership have predominately resided in telecommunications, industrial facilities, and energy.

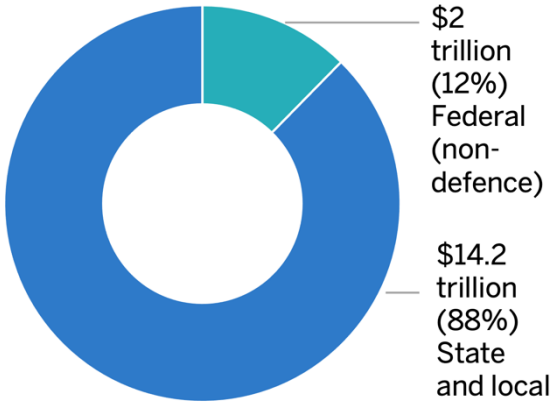
WHO OWNS U.S. INFRASTRUCTURE

Infrastructure ownership in the U.S. is typically decentralized, with state and local governments owning nearly 90%[3], as seen in Figure 1 to the right.

The table[4] below provides a closer look at government ownership of infrastructure. State and local governments dominate ownership in almost every area in the table. They own 98% of highways and streets, including the entire interstate highway system. They own schools, water and sewer systems, police and fire stations, and transit systems.

The federal government mainly owns infrastructure in two areas: Intellectual property (84%) and conservation (65%). The former mainly includes research and development assets; the latter includes dams and park infrastructure.

Ownership of U.S. infrastructure by government



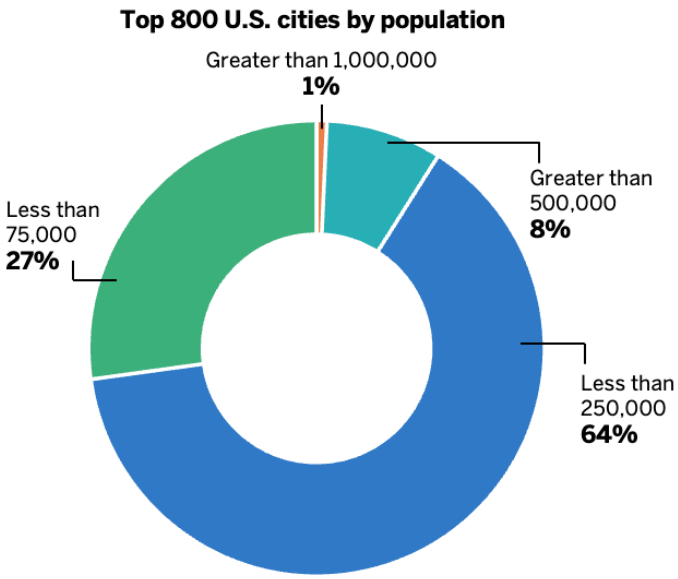
[3] U.S. Bureau of Economic Analysis, "Table 7.1. Current-Cost Net Stock of Government Fixed Assets" (accessed July 2023).
[4] See note 1

U.S. public infrastructure by category and ownership, 2021, public non-defence buildings and other structures

Activity	State and Local ($)	Federal ($)	Total ($)	State and Local %	Federal %
Structures					
Highways and streets	4,494.2	48.4	4,542.6	99	1
Transportation	1,063.2	31.3	1,094.5	97	3
Educational	3,278.7	53.8	3,310.0	91	9
Sewer systems	1,029.1	0	1,029.1	100	0
Water systems	771.2	0	771.2	100	0
Health care	304.2	86.8	391.0	78	22
Residential/public housing	432.3	0	432.3	100	0
Office/administrative buildings	1,041.3	123.9	1165.2	89	11
Public safety	270.1	100.0	370.1	73	27
Power	468	22.6	490.6	95	5
Conservation and development	179.8	338.5	518.3	35	65
Amusement and recreation	354.2	36.3	390.5	91	9
Other structures	70.8	97.6	168.4	42	58
Equipment	288.9	166.2	455.1	63	37
Intellectual property products	167.4	906.8	1,074.2	16	84
TOTAL	**14,312.4**	**2,012**	**16,324.2**	**88**	**12**

These statistics indicate that decentralized ownership is a key feature of infrastructure in the United States. Just 3% of U.S. infrastructure is federally owned.

Local U.S. governments are characterized by a lack of amalgamation in large metropolitan areas. Unlike in Canada, where large metropolitan areas have merged (e.g., Ottawa, Toronto, etc.) under one centralized government, metropolitan areas, like Chicagoland, have 284 communities spread over seven counties. In Los Angeles County alone, there are 88 incorporated cities, and in the seven-county Dallas-Fort Worth Metroplex, there are approximately 200 incorporated cities.



This often means in local U.S. jurisdictions, there are independent government structures, with their own sets of councillors, mayors, budgets, and infrastructure. Of the Top 800 U.S. cities by population, more than 91% have less than 250,000 people. In other words, there's a groundswell of infrastructure opportunities in this trillion-dollar addressable market segment, particularly for projects under US$50 million in capital cost.

HOW U.S. INFRASTRUCTURE IS FUNDED

While the federal government owns relatively little infrastructure, its funding and regulatory policies have a large effect on the infrastructure owned by the state and local governments. For instance, in the last several months, the federal government and its agencies have made several decisions that impact local and state infrastructure including the first-ever national drinking water standard for per- and polyfluoroalkyl substances (PFAS)[5]; changes to the *National Environmental Policy Act* (NEPA), including permitting reform[6]; and new electronic recordkeeping rules to improve tracking of workplace injuries and illnesses[7].

The federal government spends on infrastructure in a few ways:

- Direct spending on infrastructure it owns, such as dams and air traffic control systems.
- Grants and loans to state and local governments or non-governmental entities.
- Provisions that allow state and local governments to issue tax-exempt bonds/loans.

The chart below illustrates spending levels by government (state and local vs. federal)[8] since the 1980s.

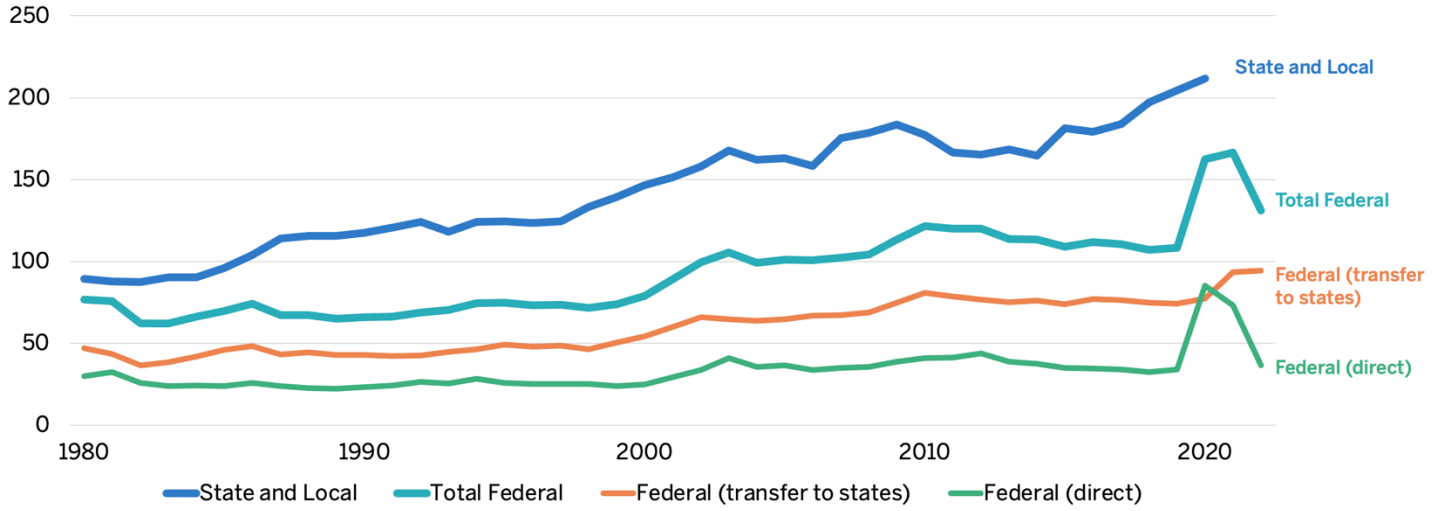
[5] White House (2023) 'FACT SHEET: Biden-Harris Administration Takes New Action to Protect Communities from PFAS Pollution'

[6] White House (2023) Biden-Harris Administration Proposes Reforms to Modernize Environmental Reviews, Accelerate America's Clean Energy Future, and Strengthen Public Input

[7] Occupational Safety and Health Administration (2023) "Improve Tracking of Workplace Injuries and Illnesses"

[8] USAFacts aggregations of data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis (BEA)

Infrastructure spending adjusted for inflation (Fiscal year, 2022 dollars, US$billions)

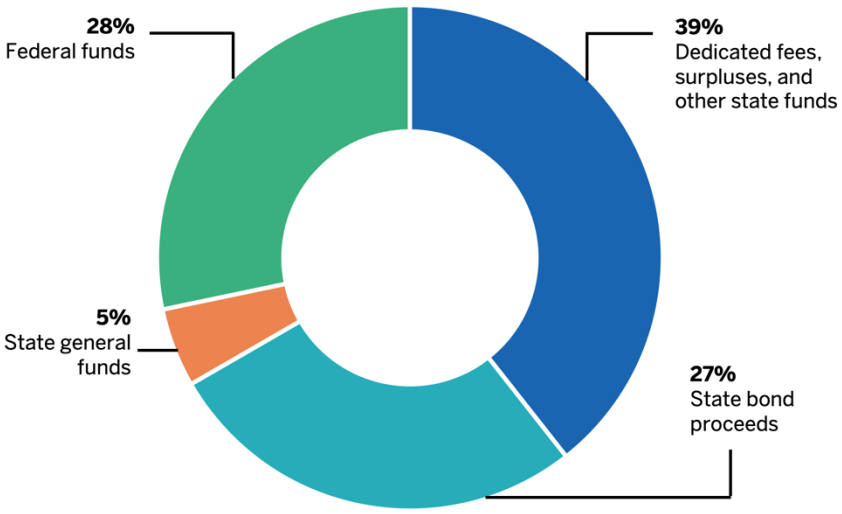


Despite recent investments in infrastructure by the federal government, the pace of infrastructure spending by state and local governments has nearly doubled that of the federal government since the 1980s.

State and local funding

State and local (including county) governments pay for public buildings, facilities, roads, public transit, water, and other infrastructure somewhat differently than they fund other types of spending. For example, they use debt more frequently and often rely on user fees, like water rates, tolls, and special sales tax measures (e.g., LA Metro, Sound Transit, CapMetro for public transit) to fund infrastructure.

State dollars and borrowing pay for majority of infrastructure projects



In addition, the federal government provides grants for roads, transit, and other infrastructure. But state and local government revenues are required, regardless of the funding method that's used. Borrowing must be repaid, and federal grants often require matching funds. The graphic below provides a detailed breakdown of states pay for infrastructure projects[9].

[9] National Association of State Budget Officers, 2022 State Expenditure Report

CHALLENGES IN FUNDING U.S. INFRASTRUCTURE

The U.S. population has more than doubled since the 1960s, when most of the country's major infrastructure systems were designed. Experts say many are reaching the end of their lifespan and are dangerously overstretched[10].

The American Society of Civil Engineers (ASCE) has compiled regular "report cards" on the state of U.S. infrastructure since the 1980s. In its 2021 report[11], the ASCE found that the nation's infrastructure averaged a "C-," up from a "D+" in 2017, and the highest grade in 20 years. Still, the group estimated that there is an "infrastructure investment gap" of nearly US$2.6 trillion this decade that, if unaddressed, could cost the United States US$10 trillion in lost gross domestic product (GDP) by 2039.

The funding gap highlighted in the provided table from American Society of Civil Engineers (ASCE)[12] reflects the disparity between the total investment needs and the amount of funding currently allocated for various infrastructure categories (as previously noted).

Projected infrastructure investment needs in the United States between 2020 and 2029, by sector (US$billions)

Asset Type	Total needs	Funded	Funding gap
Totals	**5,937**	**3,350**	**2,588**
Transportation	2,834	1,619	1,215
Drinking water, wastewater, stormwater	1,045	611	434
Schools	870	490	380
Electricity	637	440	197
Airports	237	126	111
Dams	93.6	12.5	81
Levees	80	10.1	70
Public parks and recreation	77.5	9.5	68
Inland waterways and marine ports	42	17	25
Hazardous and solid waste	21	14.4	7

[10] McBride, James, and Anshu Siripurapu (2021) Council of Foreign Relations, 'The State of U.S. Infrastructure' https://www.cfr.org/backgrounder/state-us-infrastructure

[11] American Society of Civil Engineers, 2021-IRC-Executive-Summary-1.pdf (infrastructurereportcard.org)

[12] American Society of Civil Engineers, https://infrastructurereportcard.org/

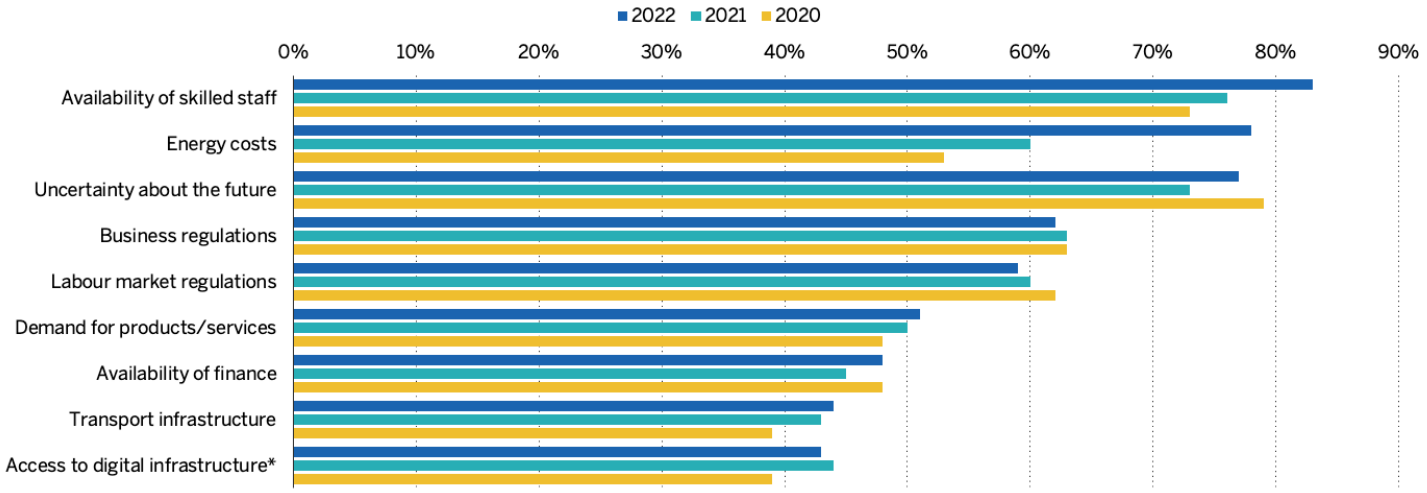
Across all categories, the total investment needs amount to US$5,937 billion, with US$3,350 billion funded, leaving an overall funding gap of US$2,588 billion. These figures underscore the substantial funding shortfall and the need for increased investment in the U.S. infrastructure to address the identified needs.

> "This not a report card anyone would be proud to take home. We have not made significant enough investments to maintain infrastructure that in some cases was built more than 50 years ago. As this study shows, we risk significant economic losses, higher costs to consumers, businesses, and manufacturers - and our quality of life - if we don't act urgently. When we fail to invest in infrastructure, we pay the price.[13]"
>
> **— Thomas Smith, ASCE executive director**

Barriers to investment activities in infrastructure

According to a 2022 survey published by Statista Research[14], infrastructure firms in the European Union and United States said that the availability of skilled staff was the biggest barrier to their investment activities. The second biggest barriers are uncertainty about the future and energy costs. More than half of respondents also mentioned business and labour regulations as an investment barrier.

Barriers to investment activities seen by infrastructure firms in the European Union and United States from 2020 to 2022, by type[15]



In a separate survey, similar concerns are present regarding investments in the construction sector.

These various barriers to investment domestically in the U.S. present Canadian companies with a pipeline of opportunities to provide partnerships with the public and private sector in the U.S.

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[13] Road & Bridges (2021) ASCE Infrastructure Report Card gives U.S. a C-grade, March 3, 2021 https://www.roadsbridges.com/infrastructure/news/10653769/asce-infrastructure-report-card-gives-us-a-c-grade

[14] Statista Research Department (2022) 'Barriers to investment activities seen by infrastructure firms in the European Union and United States from 2020 to 2022, by type'

[15] Ibid 14

OPPORTUNITY FOR CANADIAN BUSINESSES

Canada and the United States share a strong economic relationship. The North American Free Trade Agreement (NAFTA), now succeeded by the Canada-United States-Mexico Agreement (CUSMA), has been instrumental in promoting free trade and investment between Canada, the U.S., and Mexico. These agreements have eliminated tariffs on most goods originating in the member countries, liberalized regulations, and provided businesses with better access to resources and talent.

With its large population of more than 300 million people, and a 20% share of the global economy, the U.S. offers immense opportunities for growth and expansion. The economies of the two nations are deeply integrated, reflected in the substantial bilateral trade between them.

But it's important to consider nuances across different regional markets within the U.S., as well as trends in key states. Below are some highlights across various U.S. regions. In Section 2, more detailed trends are provided in some of these regions/states.

Regional markets in the U.S.

Regional markets in the U.S. offer favorable business prospects for Canadian exporters and investors. Understanding these regional markets and their specific clusters provides Canadian businesses with valuable insights to develop effective market entry strategies and expand their operations in the U.S. Below is an overview of opportunities in each region.

Northeast region

This region boasts a diverse collection of large metropolitan centers and legislative measures that support clean energy and public transit. For example:

- Through fiscal year 2028, the State of Massachusetts will be providing more than US$1.6 billion to fund more than 40 state building projects with a focus on decarbonization.
- The state of Maine has passed legislation that requires 100% of their electricity to come from clean energy by 2050 (Governor Mills has committed to accelerate Maine's transition to using 100 percent clean energy to 2040).
- Proximity to Ontario and Quebec, as well as a significant business and manufacturing base, make the Northeast an excellent market for Canadian commodities, products, and services.

Great Lakes & Midwest region

This region is particularly attractive for Canadian companies due to its position in the U.S. manufacturing sector. The region is home to a concentration of electric vehicle (EV) manufacturing firms, rail car industry, as well as various Fortune 1000 companies. The region is flush with infrastructure opportunities, including:

- A focus on infrastructure upgrades and education is the centerpiece of the recently passed budget in the State of Michigan. The fiscal budget sets aside more than US$6.5 billion for transportation, US$1 billion for the environment, Great Lakes, and energy, and US$24 billion for education.
- In Illinois, a six-year, US$41-billion Rebuild Illinois Infrastructure Plan was announced in June 2023. The plan includes more than US$27 billion in road and bridge repairs through 2029; $9.9 billion for public transit, US$2.7 billion for freight and passenger rail systems, US$1.3 billion for aviation projects, and US$190 million for ports and waterways.

Southeast region

This region presents opportunities for Canadian exporters in sectors such as electric vehicles, education, and waste-to-energy. They include:

- The Louisiana State Legislature recently announced US$435 million in budget appropriations for construction projects at higher education institutions across the state.
- The State of Georgia anticipates by 2030, that state and local incentives for the electric mobility industry will be responsible for 35 projects (including EV and lithium-ion battery manufacturing facilities) across the state, totaling US$28 billion of investment and 28,000 new jobs.
- In Florida, the state has solidified its status as the nation's waste-to-energy capital with Senate Bill 1764 (signed in June 2022). It establishes a financial assistance program for power purchase agreements at municipally owned solid waste combustion facilities, as well as grants to potentially incentivize capacity expansion.

Southwest region

This region offers a business-friendly environment for Canadian companies. Several states, including Utah, Colorado, Arizona, and New Mexico are home rule states (cities that have broad authority to conduct their affairs). Texas, the largest market in the region, has a robust economy and favorable business climate. For example:

- Recently, Texas Central and Amtrak announced that they are seeking opportunities to advance their planning and analysis work associated with the proposed 386-kilometre (240-mile), Dallas-Houston 205-mph high-speed rail project to further determine its viability.
- Several transit agencies across Texas, including CapMetro in Austin, DART in Dallas, and Metro in Houston have ambitious transit capital programs.
- At the end of 2021, Texas was also the undisputed leader in wind power, boasting nearly 36 gigawatts of cumulative capacity. This was roughly three times the capacity of Iowa, which ranked second.

In addition:

- In Arizona, the 2024 Budget includes nearly $800 million in education spending.
- The State of Nevada has committed over $400 million for broadband expansion in rural parts of the state.
- New Mexico, Colorado, and Nevada each have passed state legislation driving decarbonization efforts.

The United States remains a land of opportunity for Canadian businesses. Its sizeable population, vibrant economy, and strong trade relationship with Canada make it an accessible and attractive market. By leveraging the regional markets and understanding their unique opportunities, Canadian exporters and investors can establish a strong presence in the U.S. and tap into its vast potential for business expansion.

DOING BUSINESS IN THE U.S.

Minority/disadvantaged-based enterprise (MBE/DBE)

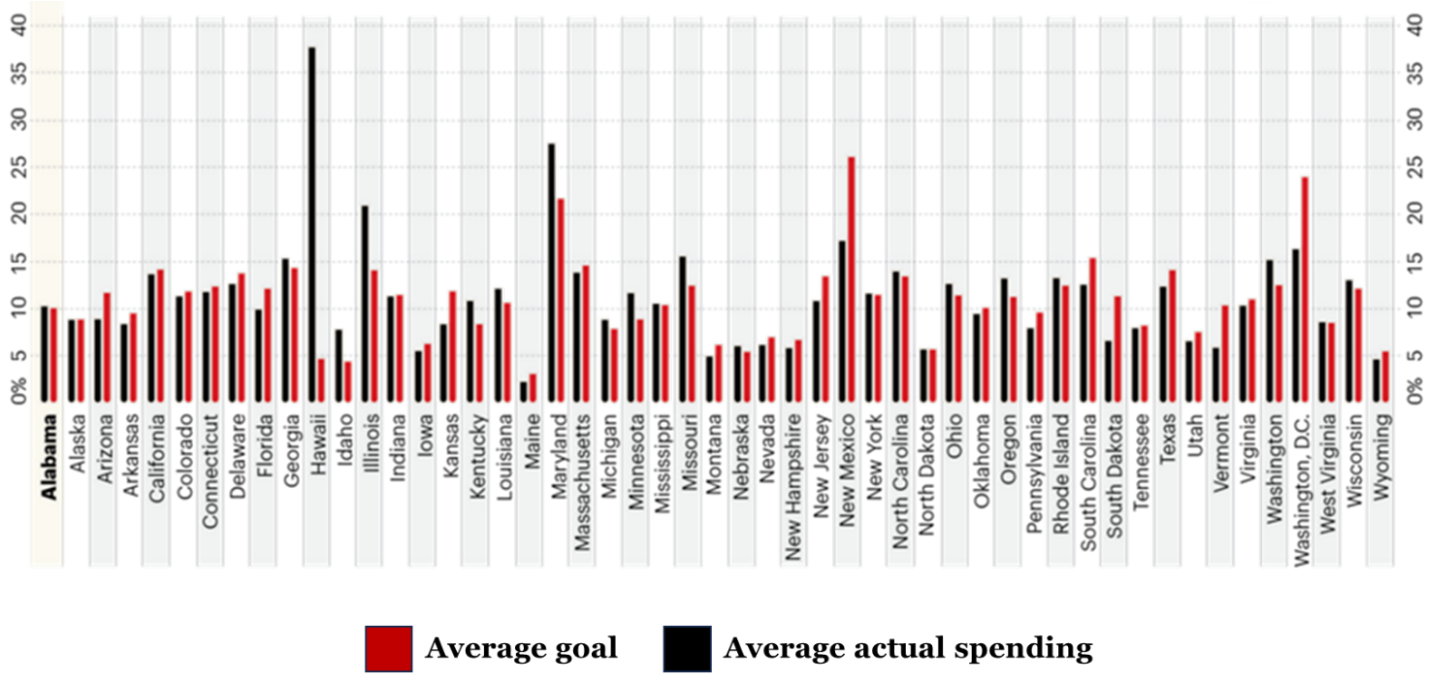
Minority firms and workers are a growing share of U.S. businesses and the workforce. The strength of the broader U.S. economy is increasingly tied to minority-owned business enterprise (MBE) performance. It was estimated that there were approximately 9.2 million employer and non-employer (classifiable) MBEs combined, generating approximately US$1.7 trillion in revenue, and with employer MBEs providing more than 8.9 million jobs[16].

MBEs are designations that businesses receive if they are at least 51% owned, controlled, and operated by people of Asian-Pacific, Black, Hispanic, and Native descent. Disadvantaged-based enterprises (DBEs) are awarded to businesses that are at least 51% owned by disadvantaged – either socially or economically – members, which includes small businesses, minorities, veterans, and women-led businesses. DBE is a federally mandated program that helps provide contracting opportunities for disadvantaged individuals, while MBEs are state and locally funded programs.

The table below illustrates the DBE spending goals and average DBE spending by state. In some instances, certain states, such as Maryland and Illinois, have DBE spending goals that exceed 10-20%.

[16] U.S. Department of Commerce, Minority Business Development Agency (2021), "The Contribution of Minority Business Enterprises to the U.S. Economy"

DBE spending goals, average actual DBE spending by state[17]



Considerations for Canadians doing business in the U.S.

All projects funded by the state and federal government require mandatory participation of DBEs and MBEs, typically between 10-20% of spending goals. State and federal MBE/DBE programs aim to prevent discrimination against MBEs/DBEs by providing them equal opportunity to compete for contracts. Each state has its own registry for MBE/DBE companies.

Contractors bidding on public work contracts need to ensure that their team composition includes the required percentage of MBE/DBE participation to submit a compliant bid. Canadian companies should understand these requirements when looking to bid on projects, and find appropriate partnerships based on their project objectives.

Achieving these goals can be a daunting challenge, particularly for Canadian companies that aren't familiar with qualified and capable MBEs/DBEs from state-to-state. EDC's GBD U.S. infrastructure team aims to minimize this challenge and work with local and state public sector agencies to identify MBEs/DBEs.

A list MBE/DBE related definitions and MBE/DBE firms is available in Appendix B and C of this report.

Who to partner with in the U.S.

See Appendix C for a sample of listings for each of the following organizations.

[17] DBE Spending

Professional services firms and construction contractors

The Engineering News-Record (ENR) attempts to bring structure to an otherwise huge and chaotic construction industry by performing annual surveys of its key segments, and ranking companies engaged in general contracting, specialty contracting, engineering, architecture and environmental services, and other specialties. The rankings, based on annual revenue at home and abroad, are further divided into specific market categories.

Metropolitan Planning Organizations

A Metropolitan Planning Organization (MPO) is a federally mandated and funded transportation policy board designed to carry out transportation planning processes in the U.S. They're created by representatives from local governments and governmental transportation authorities in accordance with applicable state or local laws. MPOs are required in any urbanized area (UZA) with a population greater than 50,000[18].

Congress created MPOs to ensure that existing and future expenditures of governmental funds for transportation projects and programs are based on a continuing, cooperative, and comprehensive planning process. They're responsible for coordinating and allocating resources for long-range transportation projects, addressing infrastructure needs, and promoting sustainable urban development.

More specifically, each MPO is required to develop a Transportation Improvement Program (TIP), in accordance with 49 USC 5303(i), a list of upcoming transportation projects that is developed in cooperation with state, county and local transportation and public transit providers and covers a period of at least four years, including all regionally significant projects receiving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funds.

MPOs are also required to prepare a Metropolitan Transportation Plan (MTP), in accordance with 49 USC 5303(i). The MTP must identify how the metropolitan area will manage and operate a multi-modal transportation system (including transit, highway, bicycle, pedestrian, and accessible transportation) to meet the region's economic, transportation, development and sustainability goals—among others—for a 20+-year planning horizon, while remaining fiscally constrained.

Given, these responsibilities, MPOs are an invaluable source of transportation-related information, data, and local contacts for Canadian companies in their respective areas.

Industry associations

Industry organizations come in all shapes and sizes, with like-minded groups for just about every corner of the U.S. infrastructure ecosystem, whether public or private. These associations can play a crucial role in developing and advocating industry consensus around legislative and policy positions; creating business development opportunities; and delivering intelligence to empower business decisions. Canadian companies should leverage as many relevant industry associations as possible throughout the U.S. to expedite and grow their reputation, networks, and intelligence.

[18] Federal Transit Administration "Metropolitan Planning Organization (MPO)"

2. CURRENT TRENDS

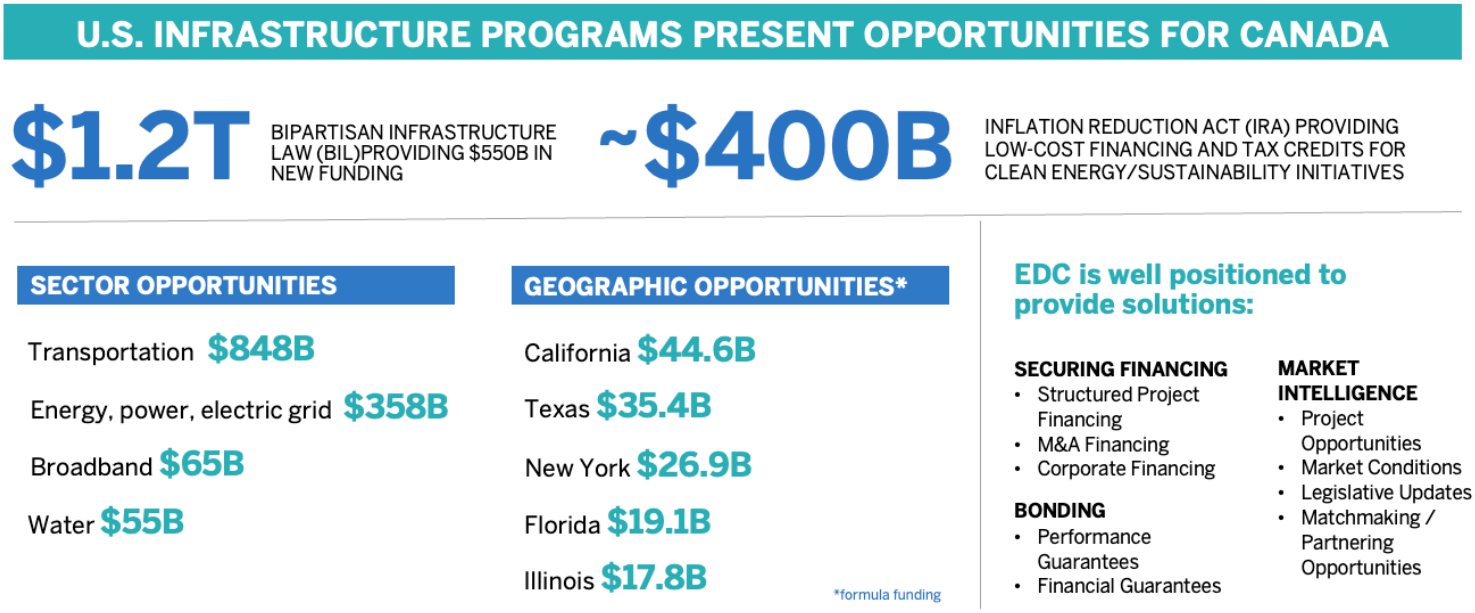
FOCUS #1: FEDERAL LAWS, PROGRAMS, AND INITIATIVES

Overview

Recent federal legislation has opened the door to more investment opportunities for Canadian businesses, including the *Bipartisan Infrastructure Law* (BIL) and *Inflation Reduction Act* (IRA). The proposed creation of a Federal Infrastructure Bank would create additional opportunities. On the other hand, the *Buy American Act* (BAA) and *Build America, Buy America* (BABA) acts pose certain constraints on investing, summarized in this section.

Bipartisan Infrastructure Law (2021)

Signed into law in 2021, the BIL—commonly referred to as the *Infrastructure Investment and Jobs Act or IIJA*)—authorizes US$1.2 trillion for infrastructure spending through 2026. Of this spending, US$550 billion goes toward new investments and 400+ programs across multiple agencies that channel funds to various state and local entities. These programs each have varying guidelines, timelines, and eligibility requirements[19]*. Funding from the BIL is expansive in its reach, addressing transportation, energy and power infrastructure, broadband, and water infrastructure.



[19] EDC's U.S. Global Business Development Team are uniquely equipped to support your understanding of these programs.

Transportation alone receives nearly $850 billion, or approximately 71% of all BIL funding, with the remaining 29% being allocated to energy, broadband and water. Note that there is limited to no funding for several other large categories of public infrastructure, including schools, office/administrative buildings (e.g., courthouses, police stations, civic administration, libraries, etc.), health care, public housing, or parks. The lack of funding support from the federal government for these assets means that local and state governments will continue to bear the funding responsibilities, creating an opportunity for expansive use of the public private partnership (P3) delivery model and long-term private financing.

In May 2022, the White House developed a Guidebook to BIL for State, Local, Tribal, And Territorial Governments, and Other Partners. The guidebook is a roadmap to funding available under the law, explains how much funding is available at the program level, and contains 13 chapters grouping BIL programs by issue area.

More specifically, the U.S. Department of Transportation (U.S. DOT) has established a BIL Grant Programs site that lists the all the grant programs authorized under BIL for the department, including their five-year funding totals.

The Build America Center has also set up the BIL Launchpad, which provides customized information on available funding, interactive technical support, data on successful awards, and essential resources. With this platform, localities can accelerate their grant application process and access the necessary tools to enhance their transportation infrastructure. Canadian companies that support eligible funding recipients may find the BIL Launchpad especially useful in improving the success of grant applications.

In addition, the General Services Administration has developed a BIL Maps Dashboard that provides updated information on state-level BIL funding as well awarded project-level BIL funding.

It is important to acknowledge that the BIL contains nearly 400 programs across the federal government, of which several are brand new. Consequently, U.S. federal government departments are tasked with developing new rulemaking for these programs which has undoubtedly caused delay in their establishment, confusion in the application process and/or in executing funding agreements.

Canadian companies are strongly encouraged to monitor the Federal Register, the official journal of the U.S. federal government that contains government agency rules, proposed rules, and public notices for additional guidance and clarity on all BIL programs. It is published every weekday, except on federal holidays. Canadian companies seeking to better understand the rulemaking are recommended to review the Office of the Federal Register's 'Guide to the Rulemaking Process'.

Capital Investment Grants (CIG) Program

Overseen by Federal Transit Administration (FTA), the Capital Investment Grants (CIG) program, is a discretionary grant program that funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. Federal transit law requires transit agencies seeking CIG funding to complete a series of steps over several years.

For New Starts[20] and Core Capacity[21] projects, the law requires completion of two phases in advance of receipt of a construction grant agreement: Project development and engineering.

For small starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement: Project development.

The law also requires projects to be rated by FTA at various points in the process according to statutory criteria evaluating project justification and local financial commitment. For a complete discussion of the CIG process and the evaluation criteria, please see FTA's Policy Guidance.

Nearly all major transit projects in the U.S. are funded through the GIG program. Canadian companies interested in participating in transit projects which may involve CIG funding should also become familiar with the transportation planning and environmental review process requirements that apply to projects funded by FTA. Find information on the transportation planning process and the environmental review process.

The CIG dashboard reports data and the status of milestones for new starts, small starts, and core capacity projects seeking funding. Information is updated monthly based on progress reported by project sponsors to FTA's Office of Planning and Environment.

Transportation Infrastructure Finance and Innovation Act (TIFIA)

The TIFIA provides credit assistance for qualified projects of regional and national significance. Many large-scale, surface transportation projects—highway, transit, railroad, intermodal freight, and port access—are eligible for assistance. Eligible applicants include state and local governments, transit agencies, railroad companies, special authorities, special districts, and private entities.

This credit program is designed to fill market gaps and leverage substantial private co-investment through supplemental, subordinate investment in critical improvements to the nation's transportation system.

TIFIA credit assistance is often available on more advantageous terms than in the financial market, making it possible to obtain financing for needed projects when that financing isn't otherwise available. This includes flexible amortization, up to 35-year repayment period (BIL allows up to 75 years for some projects) and deferrable payments for five years after substantial project completion. Interest doesn't accrue until proceeds are drawn and there is no-prepayment penalty.

[20] A New Starts Project is defined as: a project with total project cost that is equal to or greater than $400 million or total New Starts funding sought equals or exceeds $150 million; is a new fixed guideway system (light rail, commuter rail, etc.); an extension to existing system; or a fixed guideway BRT system

[21] Core Capacity Project is defined as: A substantial corridor-based investment in existing fixed guideway system. The project must: be located in a corridor that is at or over capacity or will be in ten years; increase capacity by 10%; and not include project elements designated to maintain a state of good repair

Water Infrastructure Finance and Innovation Act (WIFIA)

The WIFIA of 2024 established the WIFIA program, a federal credit program administered by Environmental Protection Agency (EPA) for eligible water and wastewater infrastructure projects.

The EPA has developed a one-page summary of the WIFIA program which includes information on eligibility and program features as well as a listing of WIFIA projects which includes closed and pending WIFIA loans.

Hydrogen hubs in the United States

Born of the BIL, the Department of Energy's (DOE) Regional Clean Hydrogen Hubs (H2Hubs) Program is a first-of-a-kind program with significant potential. The program includes up to US$7 billion to establish multiple regional clean hydrogen hubs across America.

In October 2023, the DOE announced its selection of seven regional hydrogen hubs in Appalachia, California, the Gulf Coast, the Mid-Atlantic, the Midwest, the Pacific Northwest and a Heartland hydrogen hub comprising Minnesota and the Dakotas.

The H2Hubs are expected to collectively produce three million metric tons of hydrogen annually, reaching nearly a third of the 2030 U.S. production target and lowering emissions from hard-to-decarbonize industrial sectors that represent 30 percent of total U.S. carbon emissions.

Each hub focuses on a different application and production method for hydrogen. For instance, the Pacific Northwest hub will focus on producing clean hydrogen exclusively from electrolysis, several other hubs intend to focus specifically on fossil-dependent technologies. The Appalachian Hydrogen Hub intends to focus on producing hydrogen from natural gas, while the California hub will use biomass and the Gulf Coast hub will use both natural gas and carbon capture.

In addition, several of the hubs will also focus on specific end-uses of hydrogen. California will focus on heavy-duty trucking and transportation, while the Heartland Hydrogen Hub in the Dakotas and Minnesota will emphasize fertilizer production for use in the region's agricultural sector. The Midwest Hydrogen Hub comprised of Illinois, Indiana and Michigan will focus on decarbonizing heavy industry, including steel and glass production as well as power generation.

Meanwhile, the Mid-Atlantic Hydrogen Hub in Pennsylvania, Delaware and New Jersey will focus on the use of nuclear energy to produce clean hydrogen.

Following these announcements, the DOE anticipates completing award negotiations in winter 2023-2024, commencing Phase 1 (detailed planning) in 2024-2026, progressing to Phase 2 (development, 2028-2033, and achieving-the final phase (ramp up and operate) in 2030-2037[22].

[22] Clean Air Task Force (2023) U.S. hydrogen hubs: What comes next?

Updates to Davis-Bacon (DBA) and Related Acts

Under the Davis-Bacon and Related Acts and Reorganization Plan No. 14 of 1950, the U.S. Department of Labor (DOL) is responsible for:

- determining prevailing wages;
- issuing regulations and standards to be observed by federal agencies that award or fund projects subject to Davis-Bacon labor standards; and
- overseeing consistent enforcement of these standards.

The DBA applies to contractors and subcontractors performing on federally funded or assisted contracts more than $2,000 for the construction, alteration, or repair (including painting and decorating) of public buildings or public works. DBA contractors and subcontractors must pay their laborers and mechanics employed under the contract no less than the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area.

In August 2023, the Department of Labor (DOL) made public its final rule updating DBA prevailing wage regulations. The final rule, which goes into effect on Oct. 23, 2023, marks the first time in 40 years changes to the DBA have been made, just as money from the *Bipartisan Infrastructure Law* (BIL) and *Inflation Reduction Act* (IRA) flows to states and jurisdictions. The DBA is by reference in the BIL and IRA.

The new rule is expected to strengthen wages for construction trades workers across the U.S., on DBA-covered construction projects, among other considerable changes including expanding types of activities constituting "construction", including:

- expanding prevailing-wage authorities to energy infrastructure;
- adopting state prevailing wage rates;
- holding contractors responsible without notice of DBA requirement;
- adding "anti-retaliation" provisions; and
- increased recordkeeping requirements, etc.

A construction industry trade group, Associated Building and Contractors, said the rule-making would be challenged in court[23].

Canadian companies pursuing work in the U.S., on projects receiving assistance from the BIL, or IRA, should carefully review the DBA final rule to determine how it may impact their business pursuits.

Asset monetarization/recycling

Asset monetization/recycling involves the sale or "concessioning" of existing revenue-generating infrastructure assets; proceeds are then typically used for investments in new infrastructure.

[23] Lesniewski, Niles (2023) "Harris touts new prevailing wage rule for construction projects" , Roll-Call, August 8, 2023

Globally, institutional investors are driving competition for investments in infrastructure and ensuring that governments secure attractive pricing for their assets.

Governments at all levels across the U.S. have existing revenue assets, including airports, toll roads, water/wastewater systems, parking systems, seaports, and electrical generation and transmission, which provide opportunities for asset monetization/recycling consideration.

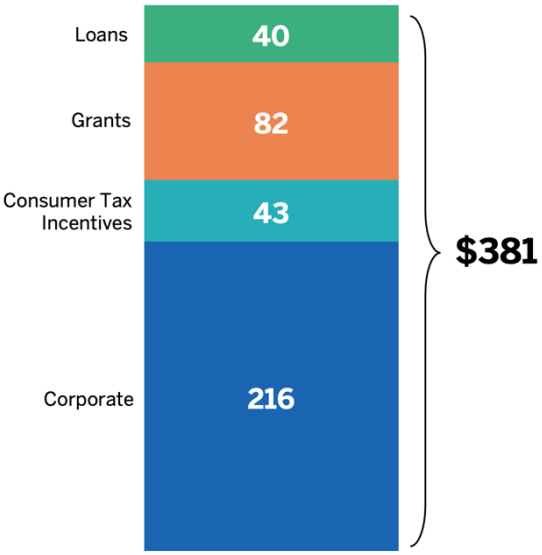
Recently, support for asset monetization/recycling could be found in the BIL. This topic will be discussed in greater detail later under the section, Emerging themes in the U.S. infrastructure market.

Inflation Reduction Act (2022)

The *Inflation Reduction Act* (IRA), signed into law on Aug. 16, 2022, directs nearly US$400 billion through a mix of tax incentives, grants, and loan guarantees toward reducing the nation's carbon emissions by 2030.

Most of the IRA dollars come in the form of corporate and consumer tax incentives. The US$216 billion in corporate tax incentives is designed to catalyze private investment in clean energy. Many of the IRA tax incentives are direct pay, meaning that the entity can claim the full amount even if its tax liability is less than the credit.

IRA breakdown, US$billions



Meanwhile, the US$43 billion in consumer tax credits is designed to make electric vehicles (EVs), energy-efficient appliances, rooftop solar panels, geothermal heating, and home batteries more affordable.

Selected tax credit tax modifications in the IRA include:

US$2,000 per year consumer tax credit for the purchase of heat pump water heaters, biomass stoves, and boilers

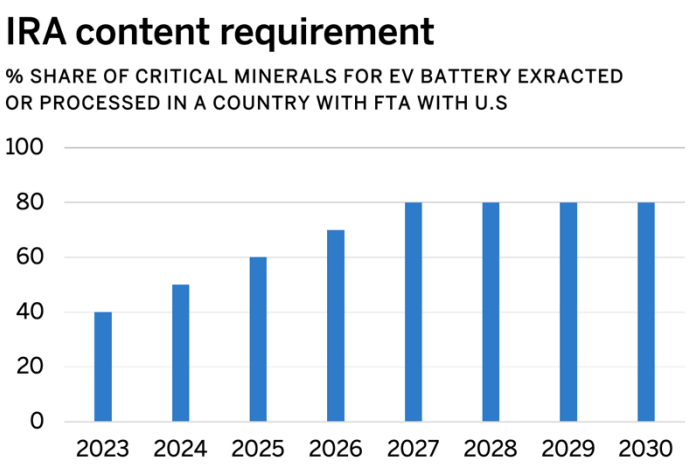
Up to US$7,500 per vehicle consumer tax credit for new Electric Vehicles (EVs)

US$1.75 per gallon for production or mixture of sustainable aviation fuel; credit runs 2023-24

US$3 per kilogram to produce qualified clean hydrogen

Requirements: Manufacturing facilities are only eligible for the full IRA tax credits if they meet prevailing wage and apprenticeship requirements (percentage of labor hours is 12.5% for projects beginning construction in 2023, and 15% thereafter[24]).

[24] Federal Register (2022) "Prevailing Wage and Apprenticeship Initial Guidance Under Section 45(b)(6)(B)(ii) and Other Substantially Similar Provisions", November 30, 2022



In addition, many IRA tax incentives also contain scaling domestic-production or domestic-procurement requirements. For example, to unlock the full EV consumer credit (refer to image inset left[25]), a scaling percentage of critical minerals in the battery must have been recycled in North America or been extracted or processed in a country that has a free trade agreement with the U.S. The battery must have also been manufactured or assembled in North America.

More on content requirements including Buy America will be discussed in greater detail later in this section.

To follow the developments of the IRA, Columbia Law School's Sabin Center for Climate Change Law and Environmental Defense Fund developed IRATracker.org. This joint project is comprised of an IRA Database that compiles information about the climate change-related provisions of the IRA 2022, and a tracker that records actions taken by federal agencies to implement those provisions.

Like the BIL, several of the IRA programs are newly established, and rulemaking is being undertaken for the first time. Canadian companies are strongly encouraged to monitor the Federal Register, for government agency rules, proposed rules, and public notices on all IRA programs.

Buy American Act (1933)/Build America Buy, America Act (2021)

The *Buy American Act* (BAA) applies to all U.S. federal government agency purchases of goods (articles, materials, or supplies) valued over the U.S. micro-purchase threshold (currently set at US$10,000). When purchased by federal entities for public use, BAA requires that these goods be produced in the U.S.

To be considered as being produced in the U.S., goods must be manufactured in the U.S. and at least 50% of the cost of their components must come from the U.S.

There are exceptions to BAA requirements. Waivers can be granted for the public interest, or if the cost of U.S. products is unreasonable compared to equivalent foreign products.

Buy American requirements don't apply to Canada for U.S. federal purchases covered by the revised *World Trade Organization Agreement on Government Procurement* (WTO GPA), to which Canada, the U.S. and 46 other countries are parties.

The Build America, Buy America Act (BABA), enacted as part of the *Bipartisan Infrastructure Law* (BIL), established a domestic content procurement preference for all federal financial assistance obligated for infrastructure projects after May 14, 2022. The domestic content procurement preference requires that

[25] McKinsey & Co., Congressional Research Service; Inflation Reduction Act of 2022, H.R. 5376, 117th Congress (2021-22)

all iron, steel, manufactured products, and construction materials used in covered infrastructure projects are produced in the U.S.

In August 2023, federal offices released long-awaited parameters for implementing Buy America requirements revised by Congress in the BIL. The Made in America Office, a component of the White House Office of Management and Budget, released 162 pages of updated guidance for the multiple federal agencies administering domestic preference requirements under the BIL's *Build America, Buy America Act*.

The final guidance defines relevant construction materials and local manufacturing process standards for each material. To qualify as "Made in America," a product must be manufactured in the U.S., with 55% of the cost of its components fabricated domestically.

Under the final guidance, construction materials include:

- Non-ferrous metals (e.g., aluminium, copper, zinc, etc.)
- Plastic and polymer-based products
- Glass, including optic glass and optical fibre
- Fibre-optic cable, including drop cable
- Lumber
- Engineered wood
- Drywall

Cement materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or addictive aren't included. The rules also don't apply to tools, equipment, and supplies brought to the job site and removed at the end of the project, according to the Office of Management and Budget (OMB).

There are three cases in which awarding agencies (e.g., municipalities, school and water districts, state departments, federal agencies, etc.) can issue waivers:

1. A public interest waiver, if applying the BABA would be inconsistent with the public interest.
2. A non-availability waiver when U.S. manufactured products aren't sufficiently available.
3. An unreasonable cost waiver, if the use of U.S. materials will increase the cost of the overall project by more than 25%.

In addition, the U.S. Department of Transportation (U.S. DOT) finalized its waiver exempting certain de minimis costs and smaller projects from Buy America requirements. For instance, by statute, the FTA exempts purchases of US$150,000 or less from the FTA-specific Buy America requirements.

The U.S. DOT acknowledges the *de minimis* exemption will save on a project's administrative costs, in part because it may cover much of a project's "commercially available off-the-shelf" (COTS) products, which are difficult to document and certify for Buy America compliance.

It's also important to note that Federal Highway Administration (FHWA) is reviewing its long-standing waiver for manufactured products on federal-aid highway projects. The American Road and

Transportation Builders Association (ARTBA) continues to support this important policy, without which the administrative costs for Buy America compliance will likely increase noticeably.

The new guidance will take effect in late 2023, or early 2024.

For more information on Buy America or BABA requirements, read EDC's What 'Buy America' means for your business, as well as the Canadian Trade Commissioner Service's (TCS) The Buy American Act and Buy America requirements. Canadian companies are also encouraged to contact EDC's GBD U.S. infrastructure team, the TCS and/or relevant industry associations to learn more about Buy America issues.

FOCUS #2: BIPARTISAN INFRASTRUCTURE LAW FUNDING

Overview

Since the signing of *Bipartisan Infrastructure Law* (BIL), more than US$280 billion has been announced[26] and is headed to states, tribes, territories, and local governments ("recipients"), with thousands of specific recipients and projects identified for funding. Thousands more will be added in the coming months, as additional funding opportunities become grant awards, and funds are directed to specific states.

EDC analyzed the BIL on a state-by-state basis, reviewing funding announcements vs. awarded funding in five states: California, Illinois, New York, Florida, and Texas. The analysis suggests that a majority of the federal BIL announced funding has yet to be awarded. Moving from announced funding to awarded funding may be contingent upon recipients (e.g., state, county, or local governments) meeting certain requirements (e.g., Buy America, labour/wage, matching funds, reporting, etc.)

Notably, all five states have placed transportation as their priority sector, as more than 75% of the total federal funding is planned for spending towards transportation projects. Climate, energy, and the environment are the next largest priority areas.

A breakdown providing additional details available in each of five state budgets is available in Appendix E. EDC's GBD U.S. infrastructure team has undertaken further research on other U.S. states. Reach out to us at USinfra@edc.ca for more information.

[26] The White House (2023) "Map of Progress"

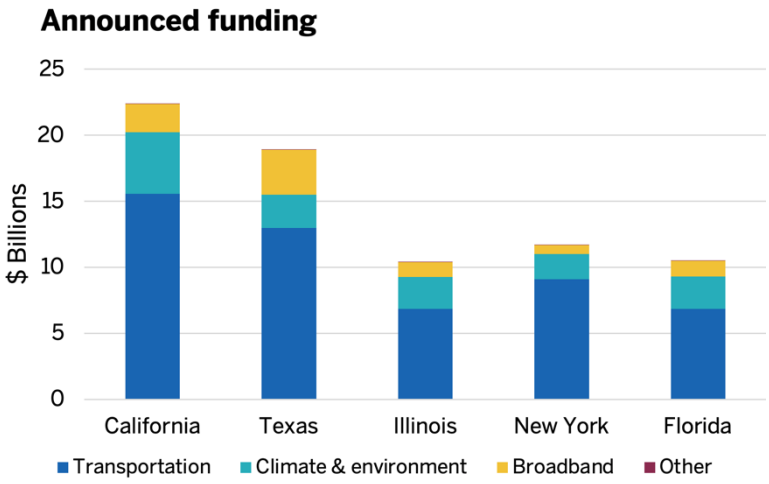
Data sources

- A summary of announced and awarded funding by each state visit is available on the Bipartisan Infrastructure Law (BIL) map dashboard.
  - A complete listing of announced and awarded funding by each state, including project name, recipient, and funding amount can be downloaded from the GSA website.
- Awarded funding has been downloaded from USASpending.gov and represents actual obligations, which are defined as a legally binding agreement that will result in outlays, either immediately or in the future.

Announced BIL funding

Note:

Data in this section represents announced funding (formula and discretionary) as of July 7, 2023. It is calculated using the sum of formula funding allocated to each state/territory and discretionary recipients within that state/territory. Announced funding is captured from agency press releases, which is preliminary and non-binding, but it may be contingent on grantees meeting certain requirements.

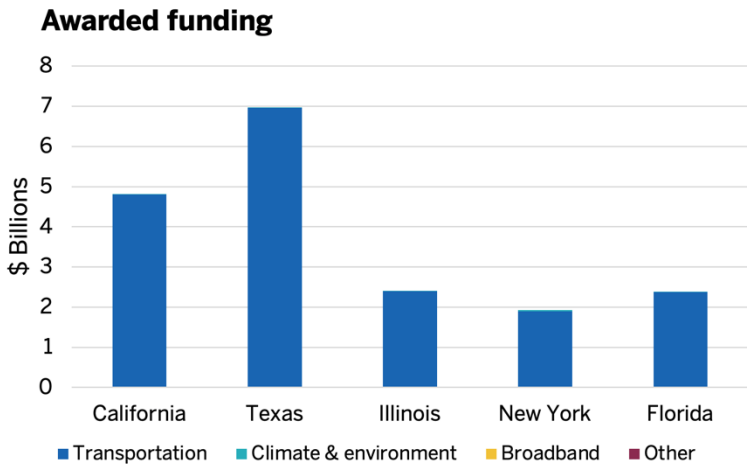


Awarded BIL funding

The majority of awarded BIL funding has been toward transportation projects.

Note:

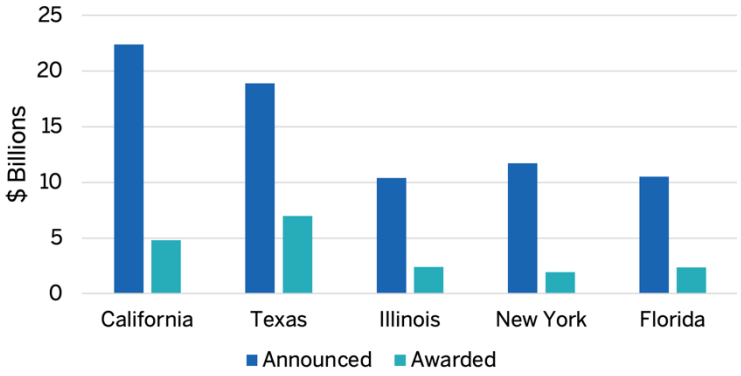
Data in this section represents awarded funding as of May 31, 2023.



Announced versus awarded funding & gaps

The announced vs. awarded gap is likely a result of how BIL funding is programmed. When analyzing the largest category of BIL funding, transportation funding is increasingly programmed in the years 2024-2026. Canadian companies can expect to see a greater pipeline of awarded projects and projects coming to market in future years.

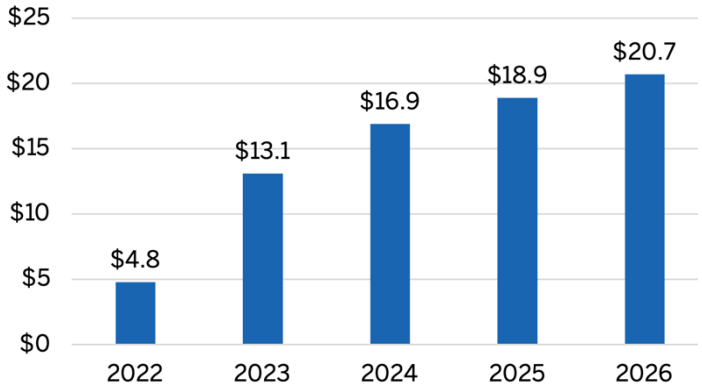
Announced vs. awarded



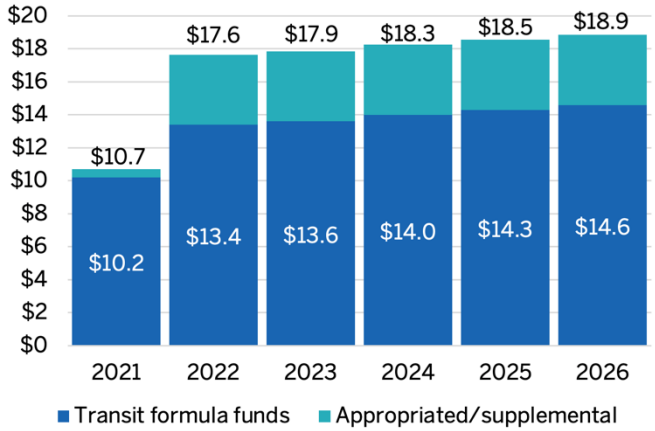
> "We are still waiting for the increase in shovel-ready public works projects promised by the *Infrastructure Investment and Jobs Act* (IIJA) and the 2022 *Inflation Reduction Act*."
>
> **— Scott Blaine, president, Goodfellow Bros[27]**

The following two charts illustrate that BIL funding for both highway and transit grow year-over-year with largest amount being back-ended beyond 2024.

Expected outlays from additional BIL highway funding (US$billions)[28]



U.S. transit apportionments from the BIL (US$billions) [29]



[27] Engineering News and Record (2023) "ENR: Top 400", ENR, Number 62, May 29—June 5, 2023

[28] American Road and Transportation Builders Association (ARTBA)—Data from IHS Markit, Economic Impacts of Transportation Infrastructure, September 2021

[29] American Road and Transportation Builders Association (ARTBA)—Data is for state appropriations and additional discretionary programs, including those appropriated from the General Fund.

FOCUS #3: OVERVIEW OF FAVOURABLE STATES FOR INFRASTRUCTURE INVESTMENT

Overview

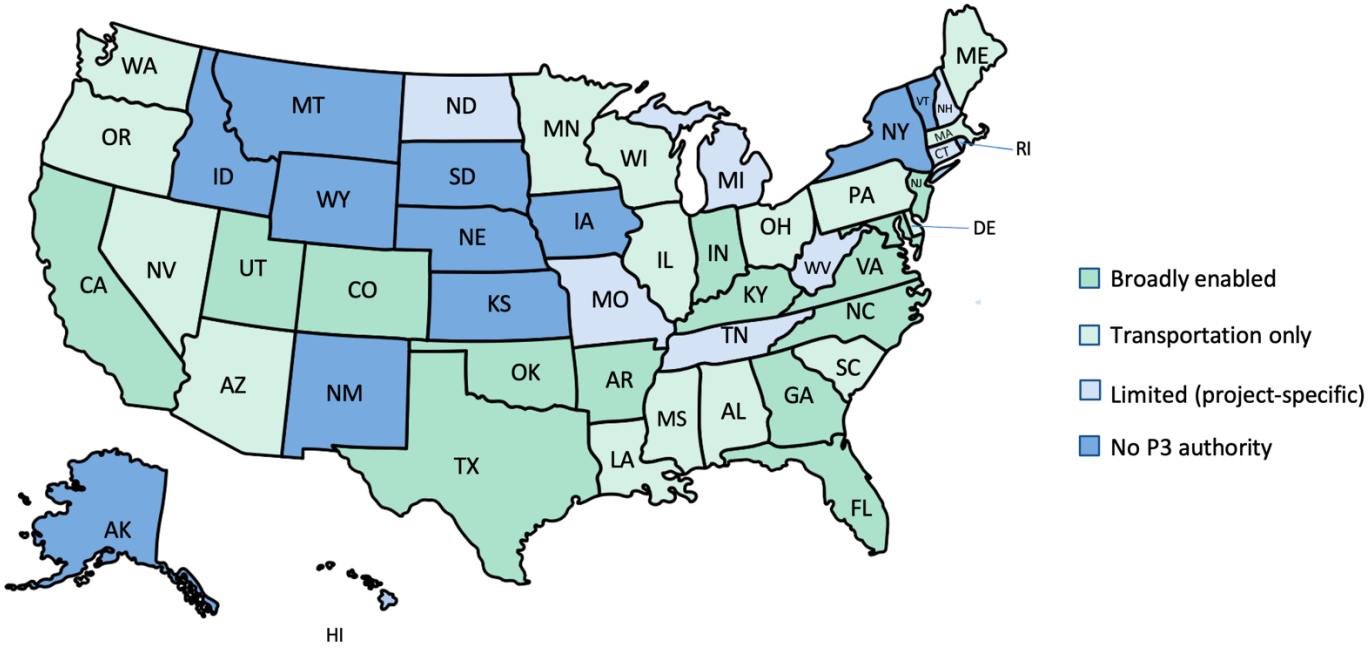
In the U.S., each state operates differently in terms of their legislation. Companies can face instances where a project will commence, but never materialize or is subject to major delays due to the political environment. As well, market fluctuations are constant, and electoral situations determine whether projects can proceed as planned.

States whose legislation doesn't streamline permitting, cut red tape, or allow state agencies to use new project delivery methods results in companies facing numerous hurdles and costs in bidding and completing projects.

The following heat maps illustrate the states that are more favourable for infrastructure development in five key areas:

1. P3 legislation
2. Decarbonization efforts
3. Home Rule vs. Dillon
4. Fair market value
5. Unsolicited proposal process legislation/authority.

P3-enabling legislation

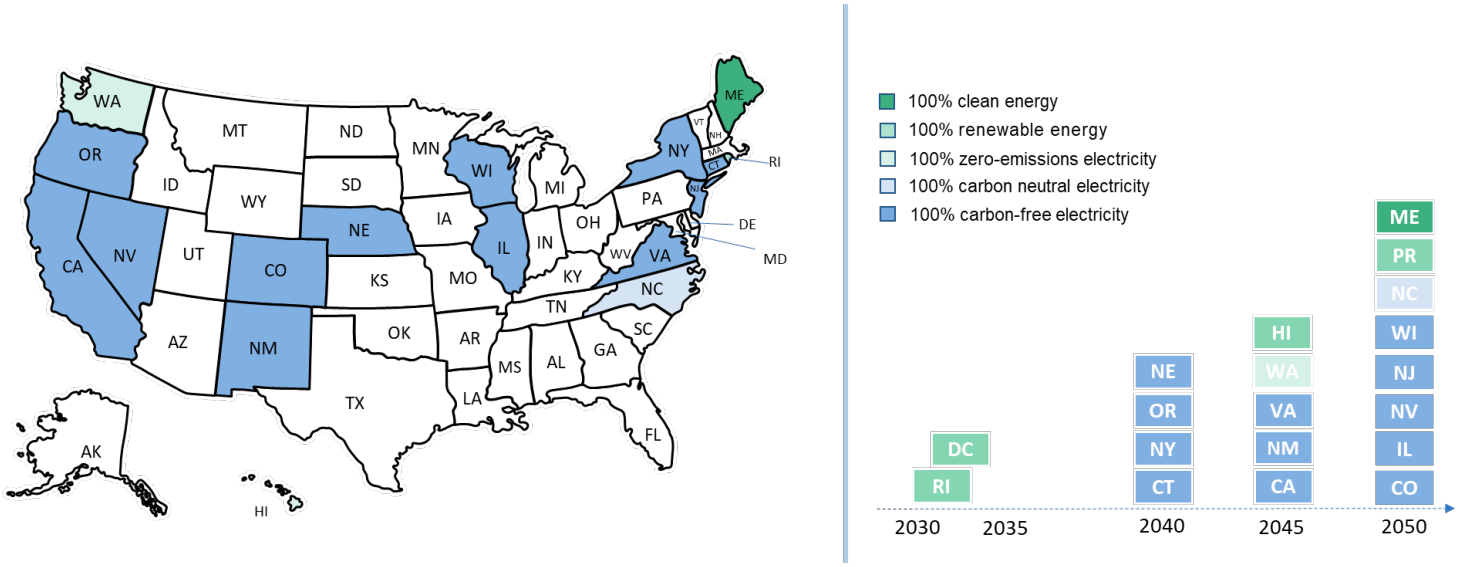


P3-enabling statutes in the U.S. give states authority to use public-private partnerships in project delivery. Some states have broadly enabled P3 legislation, while others are limited, have no P3 authority, or have authority, but only in the transportation sector. The "broad" category is defined to include authority to a wide number of agencies and projects, while the "limited" category describes laws written only for a restricted number of eligible projects or agencies.

For example, California is broadly enabled since local government agencies are authorized to enter into agreements with private entities in terms of the plan, design, build, finance, and maintenance of projects that include rail, highway, bridge, tunnel, or airport activities. On the other hand, New York isn't P3-enabled because P3 projects are facilitated on a case-by-case basis and only procured through the Port Authority of New York and New Jersey, where approval from both governors is required.

A P3 State Legislation tracker can be found here.

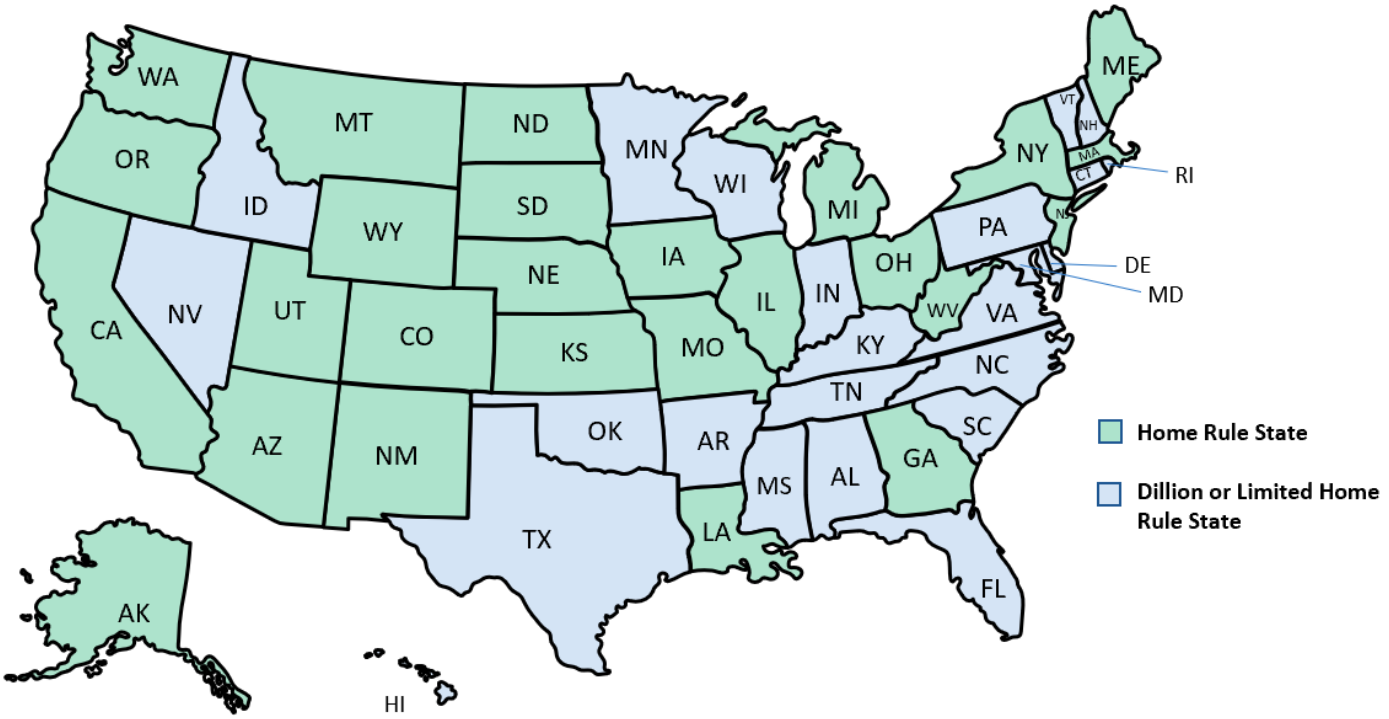
Decarbonization efforts



By 2050, certain states will have higher clean energy goals than others. Specifically, 18 states have set up targets to decarbonize their power grids. Some are looking at purely clean or renewable energy, while others are looking to achieve zero emissions electricity, carbon-neutral electricity, or carbon-free electricity. Certain states are also looking to increase their offshore wind power capacity goals. The IRA has incentivized investments in these states by allowing companies to gain additional tax credits on these types of projects.

For example, Maine's legislature created the Maine Climate Council, which consists of scientists, industry leaders, bipartisan local and state officials, and citizens to enact on their four-year Climate Action Plan. The goal is to increase Maine's Renewable Portfolio Standard (RPS) by 100% by 2050, which will require Maine Public Utilities Commission (MPUC) to procure long-term contracts for new clean energy generation and storage. In Illinois, the *Climate and Equitable Jobs Act* (CEJA) sets a goal for no carbon pollution from electricity generation by 2045. Illinois Commerce Commission (ICC) is preparing a Renewable Energy Access Plan (REAP) to replace coal and gas plants and increasing funding to communities to build solar installations.

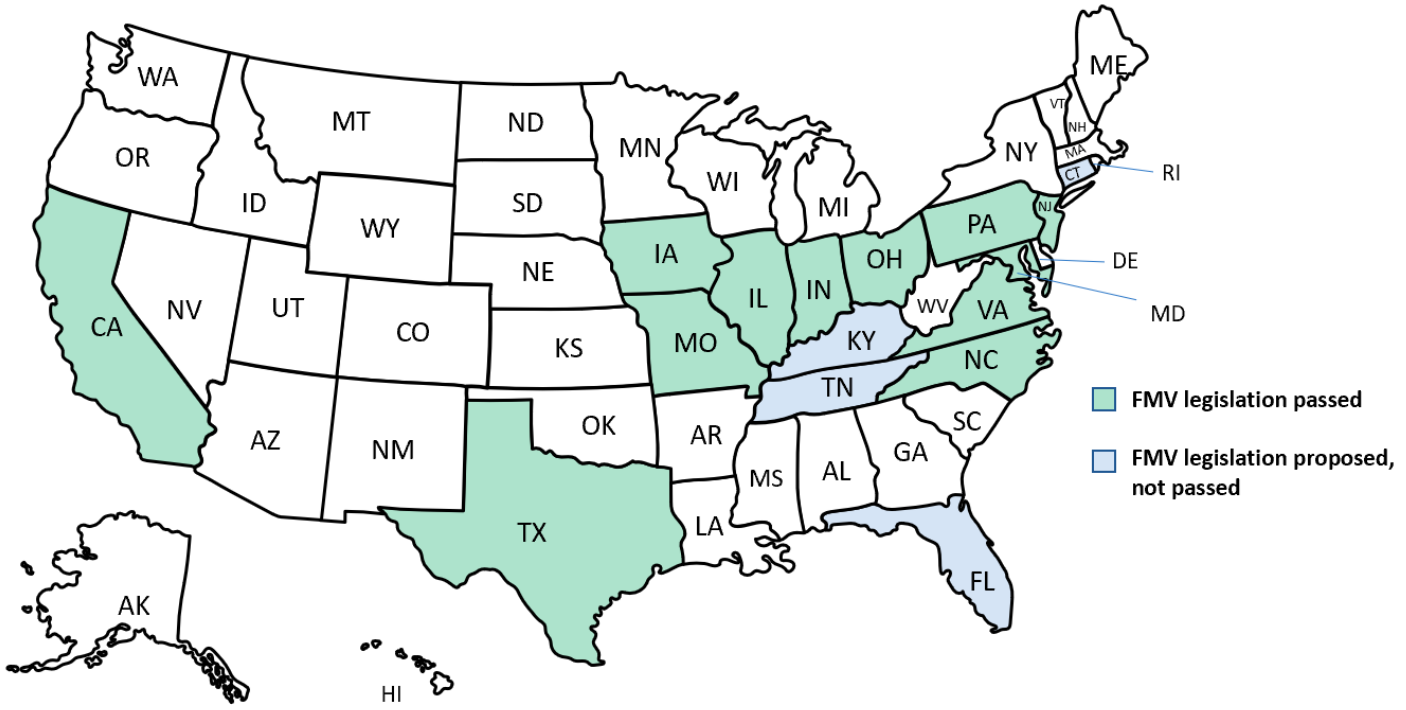
Home Rule versus Dillion Rules states



Home Rule implies that every level of government operates under their own authority, meaning state power doesn't precede over local authority. The Dillion or Limited Home Rule implies that governments operate as an extension of the state, where power is then distributed, according to state constitution. Home Rule states allow companies to freely negotiate P3s without state involvement. Companies can proceed with projects in these states without having to lobby to have their project approved at the state level.

In California, voters enacted on a Home Rule provision on the understanding that cities knew their own local needs better than the state. Cities are granted authority to enact laws governing local matters, including the power to tax.

Fair market value acquisition for water and wastewater systems



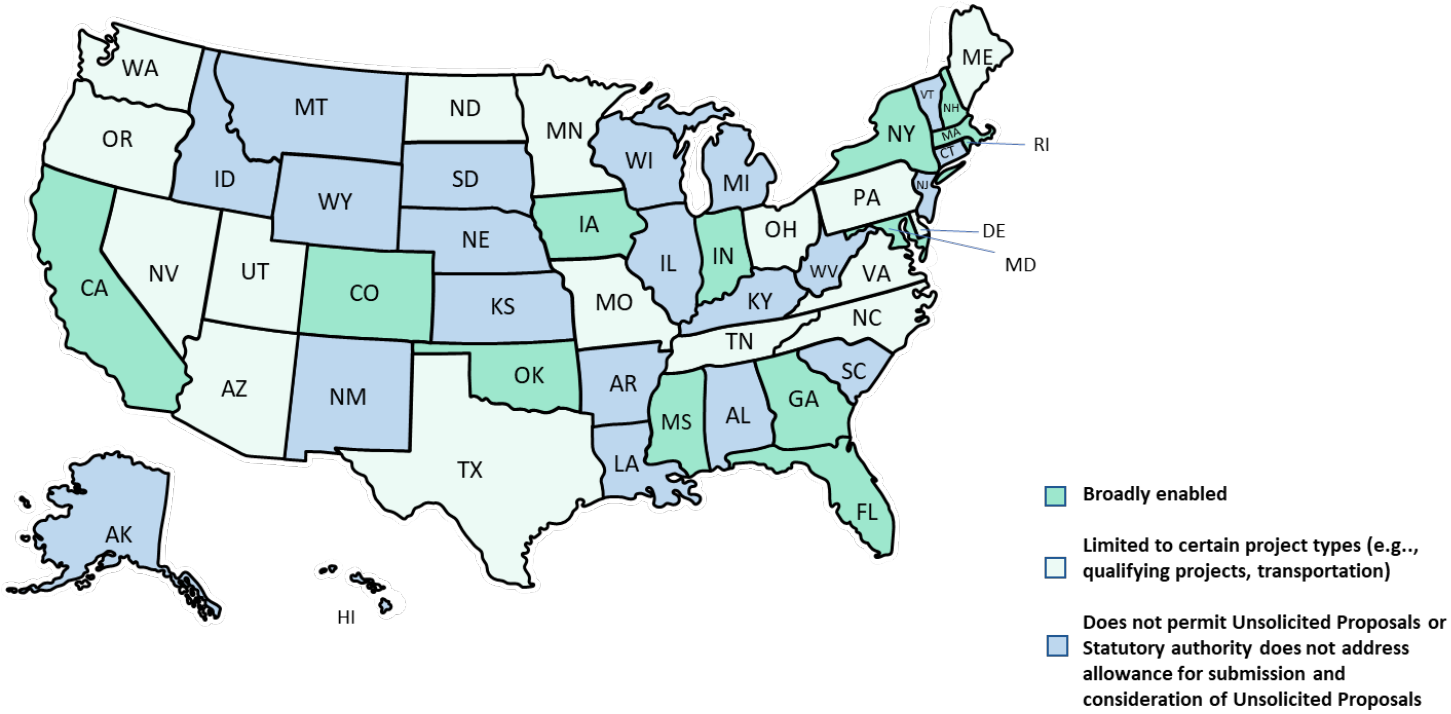
The traditional method for determining the value of a system to be acquired is to calculate the original rate base value less depreciation. The book value of a water system at the time of an acquisition is generally determined based on decades of depreciation and represents the presumed value of the system at the point of acquisition, as well as the remaining useful life[30].

Proponents of FMV say that the traditional valuation process may undervalue the assets of a water system. FMV differs from traditional valuation methods because it allows the fair market value of the acquisition (generally determined by multiple appraisals) to be included in the rate base of the newly acquired system. This increases the allowable rate base associated with an acquisition. Using the FMV of a system instead of its original cost is designed to encourage well-operated water and wastewater utilities to acquire small, municipal, or distressed systems[31].

Sixteen states have considered adopting FMV acquisition rate mechanisms, and 12 have adopted these policies. There has been an uptick in FMV legislation in response to challenges faced by water and wastewater systems. These challenges are driven by increasingly stringent water quality standards, limited technical and managerial expertise in smaller companies, and the need for investment to replace aging infrastructure[32].

[30] National Regulatory Research Institute (2021) 'A Review of State Fair Market Value Acquisitions Policies for Water and Wastewater Systems'
[31] Ibid 18
[32] Ibid 18

Unsolicited proposal process



The standard approach to developing projects at public sector agencies is largely internal: The agency identifies a need, develops a project, and seeks a contractor to carry out the scope of work.

Unsolicited proposals present an opportunity for the private sector to bring forward project proposals that aren't in response to a request for proposal or any other government-initiated solicitation or program. The process allows for companies to propose project ideas, technologies, and delivery methods that can influence the development of a commercially viable project solution. Companies can also make an initial and/or lasting impression to agencies, providing companies with a direct marketing opportunity that can lead to obtaining a contract directly, or generating a future solicitation opportunity.

An example of some agencies that allow for unsolicited proposals include the Los Angeles County Metropolitan Transportation Authority (LACMTA), the Dallas Area Rapid Transit, (DART), Sound Transit (Seattle), Metropolitan Atlanta Rapid Transit Authority (MARTA), WeGo Transit (Nashville), and the Departments of Transportation in Arizona, Colorado, Florida, Georgia, New York, Pennsylvania, Texas, Utah, and Virginia.

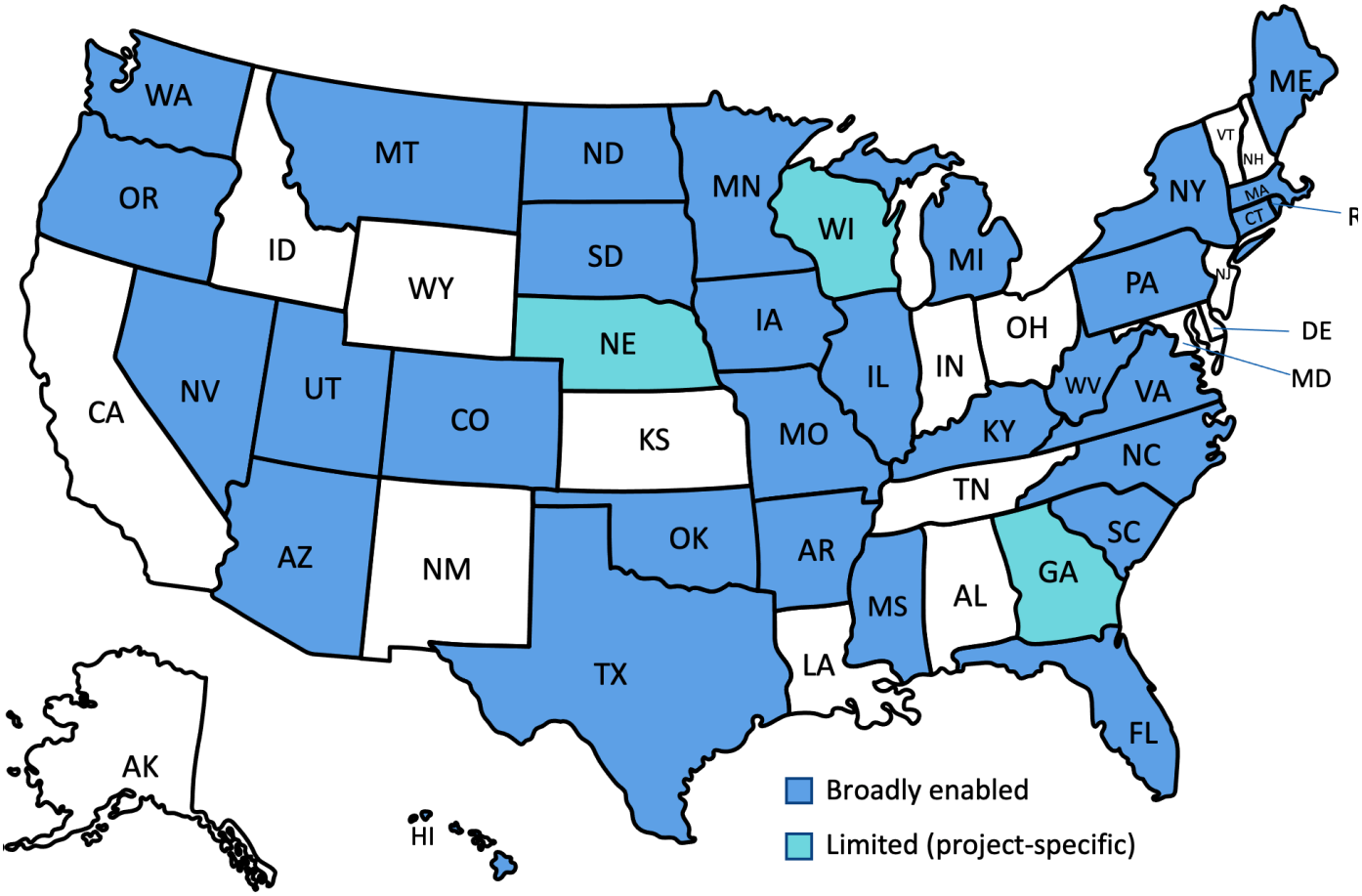
Contracting in the U.S.

Contracting with a U.S. government body can be a lucrative opportunity for Canadian businesses, but requires due diligence to understand the contracting processes, standards, and compliance requirements.

EDC used the Repository of State Practices (RoSP)[33] website, a database of state procurement statutes, regulations, and policies, to provide an overview of two categories: Best value procurement (BVP) and contract claims.

Note: the federal government may have different funding goals and compliance requirements than some state or local agencies, which requires further due diligence.

Best value procurement (BVP)[34]



Best value procurement (BVP) techniques include request for proposals (RFPs) and expressions of interest (EOIs), and are used to solicit proposals from potential bidders, taking into consideration the vendors' ability, resources, experience, and proposed methods to provide the required services.

BVPs are awarded to the highest scoring responsive and responsible bidder, based on criteria set forth in the solicitation and information contained in the proposals submitted in response. Under this method, the lowest price isn't the sole factor in determining the award.

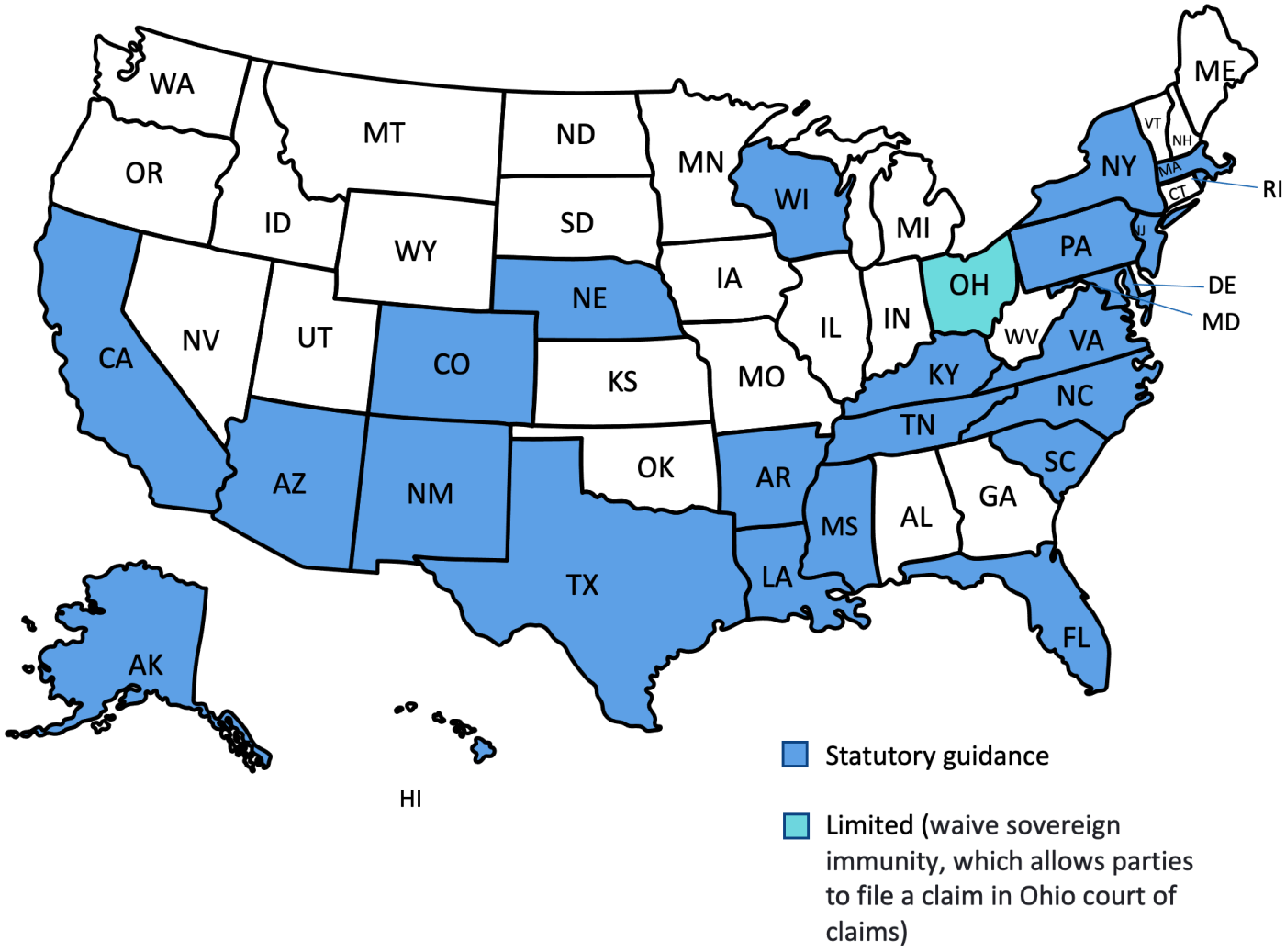
This map shows that the BVP is conducted by state authority in all the states. But some states have a citation language that names who may conduct negotiations and indicates details of the BVP procedures.

[33] Repository of State Practices (RoSP)
[34] Repository of State Practices (RoSP), Best Value Procurement

Contract claims[35]

This map shows that when it comes to contract claims (e.g., construction delay, damage, price acceleration, differing site conditions, scope changes, etc.), some states have no official guidance, while others have statutory guidance. In Ohio, there's limited guidance, as the statutes waive sovereign immunity, allowing parties to file a claim in the Ohio court of claims.

For Canadian companies doing business for the first time in any of these states, it's important to review the procurement documentation and relevant statues to mitigate any future risk in this regard.



[35] Repository of State Practices (RoSP), Contract Claims

FOCUS #4: RECENT STATE LEGISLATION

Overview

Legislative bills are routinely being brought forward across all 50 state legislatures, as well as the U.S. Congress and Senate. Staying current on ongoing legislative changes in the U.S. can provide a first-mover advantage to Canadian businesses, a service EDC's GBD U.S. infrastructure team provides.

EDC has tracked legislative manoeuvres since the start of 2023 and will be doing so going forward. Below is a sample listing of recently passed state legislative bills, and those that the team will be tracking in future legislative sessions.

Washington: HB1777-P3 contracting for energy services and equipment

On April 19, 2023, House Bill (HB) 1777 was delivered to the Gov. Jay Inslee for approval. HB1777 would allow local governments, school districts and the state to enter long-term P3s to provide energy services for buildings as the state gears up for its first-of-its-kind climate legislation.

The state's *Clean Buildings Act*, enacted in 2019, requires public buildings larger than 220,000 square feet to meet strict energy compliance standards by 2026.

Public buildings are considered the second-biggest carbon polluter in Washington behind transportation, accounting for 27% of statewide emissions, according to the Washington Department of Commerce.

New York: EV-charging legislation

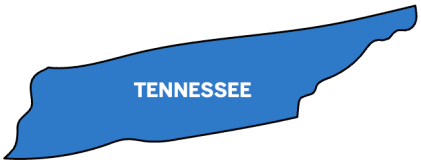
New York's legislature passed four EV-charging infrastructure bills in the spring 2023 session. They're awaiting action by Gov. Kathy Hochul

The four bills require:

- A.05052C / S.04830-C: Development of a needs evaluation for EV fast chargers and upgrades to the electrical grid along New York State priority highways and near densely populated areas;
- A.1721B / S.05120-B: Development of reliability standards for publicly available EV-charging stations and toolkits or incentives to improve EV chargers;
- A.01122 / S.00110: Commercial garages to grant public access to EV chargers at reasonable rates if the garage received governmental funding or incentives for their EV-charging stations; and
- A.05687 / S.05253-A: Development of a mobile app and web page identifying locations and fees for EV-charging stations.

Under the *Climate Leadership and Community Protection Act* (CLCPA), New York State has some of the nation's most aggressive clean energy mandates, including requiring all new passenger cars, pickup trucks, and SUVs sold in New York to be zero emission by 2035.

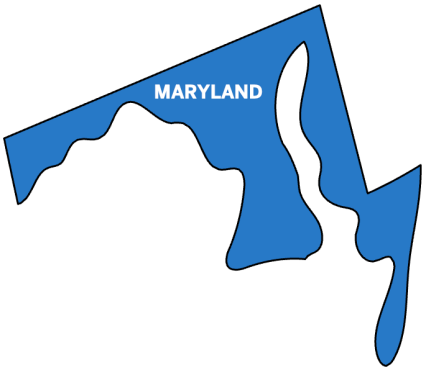
Tennessee: SB 273-Transportation Modernization Act



On April 17, 2023, Gov. Bill Lee approved the *Transportation Modernization Act* to create a new strategy and invest US$3.3 billion to accommodate Tennessee's record growth, address traffic congestion and meet transportation needs across rural and urban communities.

Senate Bill (SB) 273 gives the TDOT authority to partner with the private sector to design, build, finance, operate and maintain new and additional lanes on existing interstates called "Choice Lanes", user pay lanes for a guaranteed minimum speed.

Maryland: SB 0781–Power Act



On April 10, 2023, Maryland lawmakers passed legislation to set a goal of 8.5 gigawatts of offshore wind by 2031, more than quadrupling Maryland's current two gigawatts.

The bill also includes language to facilitate the construction of the transmission lines needed to bring that much power onshore.

Department of General Services will be buying the power, allowing Maryland to power the state, and become a net exporter.

Kentucky: SB 169–School P3s

On March 21, 2023, Gov. Andy Beshear approved Senate Bill (SB) 169, that authorizes local boards of education to engage in public-private partnerships (P3s).

Kentucky cities and counties are already authorized to engage in P3s under current law. *SB 169* now grants a local board of education the authority to enter into P3s on behalf of a local school district.

Mississippi: SB 2562–EV Charging P3s

On March 3, 2023, Gov. Tate Reeves approved an act to allow for P3s to establish electric vehicle- (EV) charging stations.

The Mississippi Transportation Commission (MTC) may contract to a private entity the design, build, finance, operation, and maintenance (DBFOM) of EV charging stations.

Senate Bill 2562 further enables the MTC to provide grants to private companies for the purpose of providing the DBOM of EV-charging stations.

FOCUS #5: EMERGING THEMES IN THE U.S. INFRASTRUCTURE MARKET

During our market intelligence research and industry outreach, four themes emerged:

1. Rise of small public-private partnership (P3) projects and a diversification of P3 players

EDC's analysis indicates that going forward, the U.S. infrastructure space will more than likely experience a rise of small (i.e., sub-US$100 million) P3, community-based, social infrastructure projects, and a diversification of P3 players, including municipalities of less than 250,000, independent and county school districts, universities and colleges, water districts, local/regional airports, etc.[36].

This pivot can be witnessed by various industry events. For instance, recently, the Association for the Improvement of American Infrastructure (AIAI) launched a P3 certification program aimed at enhancing public sector P3 skills. This has drawn significant interest from the industry, with entrants particularly keen to boost community-based and social infrastructure knowledge.

> "AIAI launched its new program at the P3C conference in Dallas earlier this year. It seeks to provide owners with a 'solid foundation and understanding of the P3 model as they pursue project success.'"
>
> **— Lisa Buglione, AIAI's executive director[37]**

In 2022, the United States Conference of Mayors (USCM) launched a taskforce on improving America's Cities with P3s. The task force will be a hub for mayors to discuss opportunities, challenges, and best practices around P3s and their cities. It'll be led by Atlanta Mayor Andre Dickens, who was appointed chair by conference president, Miami Mayor Francis Suarez.

The announcement continues the USCM's years-long commitment to promoting and nurturing P3s, including the production of a best practices guide in 2019.

> "Mayors uniquely understand the critical role of public-private partnerships in encouraging job growth, advancing public and social infrastructure and ensuring connected communities across our cities… that was the impetus behind the creation of the U.S. Conference of Mayors' new p3 Task Force"
>
> **— Mayor Suarez, president of the U.S. Conference of Mayors and mayor of Miami, Florida[38]**

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[36] See: Partnerships Bulletin

[37] Association for the Improvement of American Infrastructure (AIAI) "AIAI in the Media: "Incredible interest" in AIAI's P3 public sector certification," AIAI, April 23, 2023

[38] The United States Conference of Mayors (2022) "Nation's Mayors Launch Task Force on Improving America's Cities with Public-Private Partnerships," Washington, D.C.

Also in 2022, U.S. Department of Transportation (DOT) awarded a $5-million grant to the University of Maryland to establish the Build America Center. The center will offer educational programs, information, and resources for transportation agencies.

> "Alternative financing is an incredible tool to move projects forward, and this center will help public entities access technical assistance in financial planning and innovative project delivery methods [...] The center will support transportation professionals, as well as benefiting under-resourced and disadvantaged communities that may not have used low-interest, long-term federal financing in the past."
>
> **— Morteza Farajian, executive director, Build America Bureau[39]**

For Canadian companies, this represents a multitrillion-dollar addressable market with varying levels of competition, and in some cases, minimal levels. The challenges to market entry (amongst others) includes partnering/networking with market participants (both public and private, including minority/disadvantaged-based enterprises); educating public sector officials about the benefits, cost, challenges and opportunities of P3s; and the ability to source sub-US$100 million project financing.

Canadian companies that can strategically and economically source project financing at these levels will have a considerable first-mover advantage in attracting public sector sponsors, and ultimately sourcing project opportunities.

2. Asset monetization/recycling

The growing infrastructure funding needs and a shortfall in tax revenues available, has created a US$2.6-trillion funding gap to 2029, just to bring existing U.S infrastructure up to acceptable standards, according to the American Society of Civil Engineers (ASCE). With record investment needed for the energy transition, and infrastructure capacity and system improvement becoming the new normal, asset monetization/recycling can create a sustainable funding model for infrastructure improvements.

Infrastructure is a growing global asset class. Institutional investors (i.e., pension funds, sovereign wealth funds, investment banks, private equity firms and insurance companies) around the globe are increasing their allocations of investments to infrastructure. For pension funds and insurers, in particular, the long-term nature of concession agreements is well-matched to their future liabilities.

[39] Build America Bureau (2022) "Build America Center"

For governments across the U.S., asset monetization/recycling makes cash available sooner, enabling investments in new infrastructure while funding ongoing maintenance needs. It also eases pressure on state and local budgets and permits governments to pursue activities and risks that can be better planned, financed, and managed by the private sector.

A 2018 study found that US$720 billion to US$885 billion could be generated for infrastructure investment by P3 leases for existing U.S. infrastructure[40]. More recent studies found that leasing 31 U.S. airports would generate US$131 billion to fund other infrastructure and retire debt[41]. The lease of a major toll road system would generate anywhere between US$1.1 billion (Kansas Turnpike) to US$19.4 billion (Illinois Tollway)[42,43].

Over the last several years, there have been multiple policy and legislative shifts supporting asset monetization and recycling, including a technical assistance program and congressional reporting in the BIL; the creation of the Airport Investment Partnership Program (AIPP); and the passing of fair market value acquisition legislation for water/wastewater systems in 12 U.S. states.

Within the 1,039 pages of the BIL is **Title X Asset Concessions** on page 888[44]. Listed under Section 611, "Asset concessions and innovative assistance," the BIL provides two catalysts to drive asset monetization/recycling:

1. A technical assistance program, which provides up to US$2 million in grant funding for pre-implementation costs[45], and
2. The creation of an *Asset Recycling Report* to be delivered by the Secretary of Transportation to Congress by August 2024. The latter "provides an analysis of any impediments in applicable laws, regulations, and practices to increased use of P3s and private investment in transportation improvements" and "proposals for approaches that address those impediments while continuing to protect the public interest and any public investment in transportation improvements[46]".

Together, these initiatives signal a federal policy/programmatic role in supporting and further examining asset monetization/recycling beyond airports.

In August 2023, U.S. President Joe Biden's National Infrastructure Advisory Council (NIAC) recommended removing barriers to privatization, concessions, and other non-traditional models to fund community water systems, and allow access of privately-owned water providers, in the *Water Infrastructure Finance and Innovation Act* (WIFIA) and U.S. federal grant programs. The recommendations come as a part of a report released by the NIAC, which is comprised of nearly 30 states, and local and private sector leaders who advise the president on risks to that nation's critical infrastructure.

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[40] Reason Foundation (2018) "Using Asset Recycling To Rebuild America's Infrastructure"
[41] Poole, Robert (2021) "Study: Leasing 31 U.S. airports would generate US$131 billion to fund other infrastructure and pay debt", Reason Foundation, August 26, 2021
[42] Reason Foundation (2020) "Study: States Can Lease Toll Roads To Fund Other Infrastructure, Pay Off Debt"
[43] Middle-Range (Net Proceeds After Paying Bond Debt)
[44] 117th U.S. Congress (2021-22) "PUBLIC LAW 117–58—NOV. 15, 2021 - ''Infrastructure Investment and Jobs Act"",
[45] Ibid 25, pg. 891
[46] Ibid 25, pg. 892

In 2018, as part of legislation reauthorizing the Federal Aviation Administration, Congress created the Airport Investment Partnership Program (AIPP), which permits governmental airport owners to enter into long-term P3s leases—and use the net lease proceeds for general governmental purposes.

Examples of successful asset monetization/recycling include the Chicago Skyway, Indiana Toll Road, Ohio State University parking system, San Juan International Airport, and more than 35+ fair market value (FMV) acquisitions of water/wastewater systems across the country.

Challenges with asset monetization/recycling

While both public and the private sector partners may benefit from the asset monetization/recycling transaction, asset monetization/recycling transactions require legislation and political support, which can be difficult to obtain. Many U.S. states still lack the legislation, structure and processes, and political/institutional culture to manage it effectively. Some states and local governments enable P3s and have rules in place that support the monetization of infrastructure assets, while others prohibit it.

State and local governments likely lack the skills and in-house capacity to manage such transactions effectively and fairly. In addition, a lack of political or community support of asset monetization/recycling (often perceived as outright privatization) can derail transactions before they even start.

For Canadian companies, monitoring federal actions, legislative developments, the fiscal realities of various governments, and engaging with public sector officials about the proposed benefits of asset monetization/recycling, will be key in unlocking future opportunities.

3. Proposed creation of a Federal Infrastructure Bank

Discussion of a Federal Infrastructure Bank in the U.S. dates to the 2013 Barack Obama administration, but no federal legislation had succeeded[47]. But on Jan. 24, 2023, the Federal Infrastructure Bank Act of 2023, H.R. 490[48] was introduced into Congress.

H.R. 490 establishes the Federal Infrastructure Bank (FIB) to facilitate investment and long-term financing of public infrastructure. The FIB would:

- Be a wholesale lender and clearing house for infrastructure projects nationwide and would co-lead as an originator for certain large projects[49];
- Provide equity investments, direct loans, indirect loans, and loan guarantees;
- Encourage private investment for initial capitalization through tax incentives; and
- Raise US$100 billion of equity to finance US$1 trillion of debt over a 10-year period.[50]

Initial proposals would see the FIB be regulated by the Board of Governors of the Federal Reserve System and the U.S. Treasury. Bonds would be priced at 20 - 40+/- basis points above Treasuries, like Federal Home Loan Banks (FHLB) securities, and owners and lead underwriting syndicates would raise equity and

[47] White House (2013) "Fact Sheet: The President's Plan to Make America a Magnet for Jobs by Investing in Infrastructure"
[48] 118th Congress (2023-2024), H.R.490 - Federal Infrastructure Bank Act Of 2023
[49] Infra-Bk, LLC (2023) "Federal Infrastructure Bank -The Business Solution to U. S. Prosperity and National Security"
[50] Devitt, Caitlin (2023) "National Infrastructure Bank back in play with bipartisan bill." Bond Buyer

debt of the FIB through private investors, including individuals, investment firms, Sovereign Wealth Funds, banks, pension funds, corporations, and institutions involved in infrastructure in the U.S.

One of the proposed long-term goals of the FIB is to reinvigorate the 34 established state infrastructure banks; establish regional infrastructure banks, similar to the FHLB system; and to localize and direct funding to infrastructure projects throughout the U.S.[51].

Unlike previous FIB bills, H.R, 490 has bipartisan support, is funded by private investors (e.g., global institutional investors, pension funds, etc.) rather than public money, and expands beyond transportation to include energy, water, and "any other infrastructure which FIB identifies as providing a public benefit with regards to infrastructure.[52]"

Lobbying efforts for a FIB are already underway. Infra-Bk, LLC's objective is to establish the Infrastructure Bank for America, Inc. (IBA) as a trillion-dollar wholesale bank to finance U.S. infrastructure. It's supported by a prominent group of individuals, including:

- John E. Kramer, Jr., former chief financial officer and assistant secretary, U.S. Department of Transportation (2017-21);
- Former congressman Bill Shuster; and
- Howard E. Steinberg, former chairman of the New York State Thruway Authority.

Given the need for further infrastructure investments beyond the BIL, and global investor appetite for infrastructure assets, the alignment between the two has likely never been stronger. Consequently, it may only be a matter of time before a FIB bill gets passed into law. This would set up for a unique opportunity for Canadian pension funds, investment banks, and institutional investors.

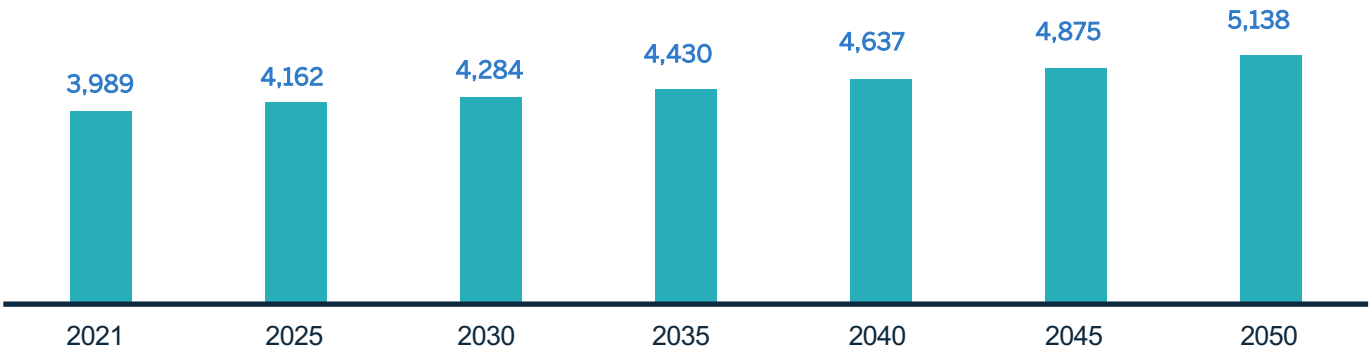
4. Decarbonization and renewable energy

> "Let's clear the way for clean energy and connect these projects to the grid."
>
> **— U.S. President Joe Biden, speaking at Brayton Power Station[53]**

Electricity demand in the U.S. is expected to grow 30% until 2050, surpassing 5,000 terawatt-hours that year[54]. As such, cleaning up the power sector will be a defining factor in achieving U.S. climate targets.

[51] See note 61
[52] Ibid 21
[53] White House (2022) "Remarks by President Biden on Actions to Tackle the Climate Crisis." July 20, 2022
[54] Statista "Projected electricity use in the United States from 2022 to 2050"

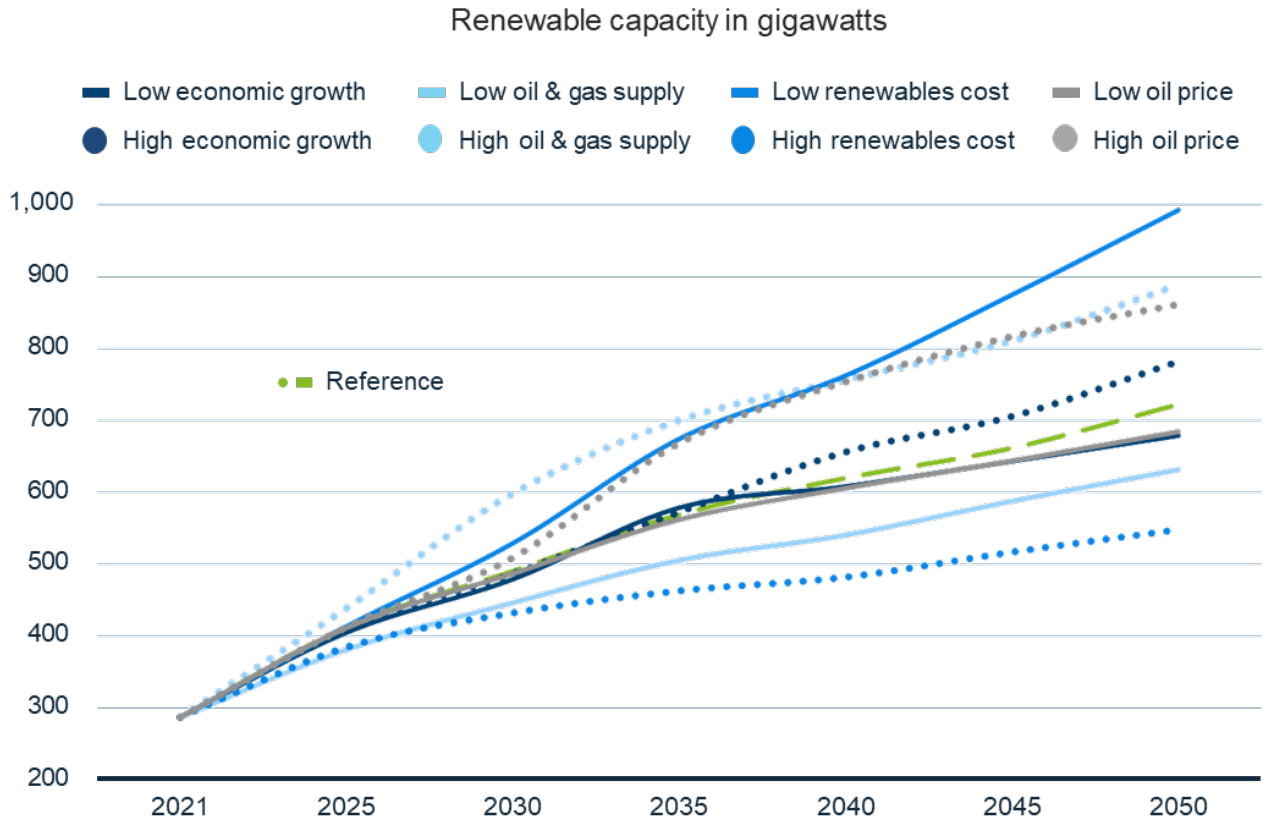
Projected electricity use in the U.S. from 2021 to 2050 (in terawatt-hours)



Renewable electricity generation in the U.S. is expected to continue growing in the next three decades as the country strives to reach net zero emissions across all sectors. In 2021, the U.S made considerable progress in renewable capacity deployment, but with a record 32 gigawatts installed, it's still far from being enough to decarbonize its power grid and get back on track to reach its Paris Agreement target.

Estimates put the demand for renewable deployment at an average of 85 gigawatts per year through 2035 if the power sector is to become carbon pollution-free by then. That would mean combined wind and solar capacity additions of 1,000 gigawatts in 13 years—five times the amount installed up until 2022.

The rate of this growth will depend on a variety of external factors such as economic development, fossil fuel supply and demand, and the price of renewable technologies.



For example, forecasts by the Energy Information Administration (EIA) put renewable power capacity in the U.S. at more than 650 gigawatts by 2035, in a scenario in which the cost of renewables drops, or the supplies of gas and oil lowers. In contrast, should costs for renewables remain unchanged, a capacity of 460 gigawatts is expected that year. For 2050, the gap is even wider—renewable capacity could vary by some 440 gigawatts between the best- and worst-case scenarios.

The math is simple: Renewable capacity deployment will need to ramp up considerably in the next decade. As of August 2022, roughly 125 gigawatts of clean energy capacity were scheduled to go online in the U.S. by 2030. Solar photovoltaic (PV) led the project pipeline, followed by onshore and offshore wind power. The latter is expected to see a boom in the coming years, with the Biden administration aiming to build 30 gigawatts of capacity by 2030.

Decarbonizing the U.S. electricity grid is going to require more than the simple buildup of renewable capacity. Making sure the generated electricity reaches consumers will be equally important. In this context, the parallel development of transmission and distribution infrastructure is set to gain increasing attention in the coming years.

The development of transmission lines in the U.S. has fallen severely behind in the past decades, victim to a complex and bureaucratic permitting process. Currently, it can take up to 10 years for a transmission project to start construction[55]. As a result, the capacity of projects seeking connection to the grid (the so-called interconnection queues) has grown continuously in the past decade. Meanwhile, the average age of transmission infrastructure in the country is estimated at 40 years.

With an aging operational infrastructure and new capacity struggling to be developed, transmission operating costs of major investor-owned electric utilities have grown considerably in recent years, nearing US$13 billion in 2020. In comparison to a decade earlier, this represented an increase of 86%. In 2020, power delivery accounted for more than 40% of the annual costs of major utilities.

As of 2021, the capacity in interconnection queues rivalled that of existing operational capacity in the country. As well, projects built from 2011 to 2021 spent an average of 3.7 years in interconnection queues, up from an average of just more than two years for projects built a decade earlier.

With an aging power grid already at the limit of its operational capacity in some regions, transmission congestion is already a problem in many areas and hinders the development of renewables in certain states[56]. The lack of a unified, interconnected national grid further aggravates the problem.

An underdeveloped power grid isn't the only challenge facing the future development of renewable electricity in the United States. Despite legislative victories in the form of the IRA and BIL, this past year saw many government decisions working against climate targets. For example, solar modules have experienced significant headwinds due to pricing and deliverability uncertainty stemming from trade policy, specifically a Department of Commerce (DOC) investigation and final determination on Aug. 17,

[55] Clifford, Catherine (2023) "Why It's So Hard To Build New Electrical Transmission Lines In The U.S.," CNBC, Feb. 22, 2023
[56] Englund, Will (2021) "The grid's big looming problem: Getting power to where it's needed," Washington Post, June 29, 2021

2023 into circumvention of anti-dumping and countervailing duties by suppliers in four Southeast Asian countries.

Meanwhile, a decision by the Supreme Court against the Environmental Protection Agency's regulation authority threatened to undermine emission reduction efforts in the coming years[57].

Elsewhere, extraordinary economic factors such as the unexpected and unforeseeable increases in inflation, labour, interest rates, and supply chain (e.g., equipment, material, energy, etc.) costs combined have eroded internal rates of return for developers.

According to a report issued in August 2023 by the New York State Energy Research and Development Authority (NYSERDA) and the New York State Public Service Commission, large offshore wind developers were asking for an average 48% price adjustment in their contracts to cover rising costs. NYSERDA adds that "requests for inflationary relief on clean energy projects have been submitted in several jurisdictions across the U.S., including, but not limited to California, Connecticut, Hawaii, Indiana, Maryland, Massachusetts, Michigan, New Jersey, New Mexico and Rhode Island. Affected jurisdictions included offshore wind, solar and storage[58]."

In October 2023, the Commission denied petitions filed by the group of offshore wind developers and a state renewable energy trade association seeking billions of dollars in additional funding from consumers for four proposed offshore wind projects and 86 land-based renewable projects. In denying financial relief, the Commission opted to preserve the robust competitive bidding process that provides critically needed renewable energy resources to New York in the fairest and most cost-effective manner that protects consumers.

Without the price increases, several projects across the U.S. may not be viable going forward or outright abandoned. Looking ahead, considerable debate will continue amongst public service commission/utility regulators (PSC/UR), developers, utility companies and ratepayers across the U.S., regarding bid and contract pricing, will take place. In this regard, we anticipate that many PSC/URs will resort to making limited pricing changes to existing contracts on a project-by-project basis and using inflation formulas for future clean energy solicitations.

We also expect the state and federal governments will provide more support in terms of new tax credits and enhance the ability of developers to claim additional bonus tax credits (under the IRA) for using domestic content. Already, developers have asked the Biden administration to guarantee tax credits without the initial domestic content requirement and request more additional time to source American-made material.

[57] Alice C. Hill (2022) "What Does the Supreme Court's Decision in West Virginia v. EPA Mean for U.S. Action on Climate?" Council on Foreign Relations, July 19, 2022

[58] New York State Energy Research and Development Authority (NYSERDA) "NYSERA comments on Petitions Requesting Price Adjustments to Existing Contracts". State of New York Public Service Commission, pg. 9

The U.S. has set an ambitious target of decarbonizing its power sector by 2035, as part of the overarching goal of reaching net zero emissions across its economy by 2050. Current policies and a business-as-usual approach won't suffice to deliver power sector decarbonization in time. The provisions under the IRA—a landmark federal law and one of the largest climate bills ever passed in the U.S.—are expected to significantly boost decarbonization in the country. Nevertheless, support is still needed, both in terms of additional legislation (i.e., tax credits, trade policy), bid and contract pricing, and the interpretation and implementation of the IRA.

Canadian companies may need to view the development of U.S. energy transition with cautious optimism. That said, the future opportunities along a project lifecycle are immense. Companies are encouraged to analyze the tax incentives within the IRA, while working U.S.-based tax and environmental advisory firms to strategically risk manage their market development plans.

5. Digitizing transportation

The *Bipartisan Infrastructure Law* (BIL) makes significant advancements in promoting innovation in America's transportation. It includes policies, investments, and partnerships that enable technologies, data systems, research and development, technology transfer and workforce development.

Activity will include research and deployment that (amongst others) enhance surface and aviation safety; solutions that address climate priorities, like transit routing and electrification; and approaches that address equity such first-mile and last-mile mobility solutions or improved accessibility.

The BIL includes numerous programs centred on developing platforms to support digitizing of transportation. Key programs include:

- Safe Streets and Roads for All program **(US$6 billion), the first of its kind, which will** fund local efforts to reduce roadway crashes and fatalities through grants for planning and projects—especially for walkers and cyclists, who are disproportionately impacted by crashes. These funds will support existing safety efforts, as well as establish new local data-driven efforts to reverse trends comparable to similar safety-oriented plans and programs such as Vision Zero and the Road to Zero Coalition. The legislation requires states and metropolitan planning organizations (MPOs) to spend funds on activities that support Complete Streets (i.e., streets designed and operated to enable safe use and support mobility for all users regardless of their mode of transportation).
- **More than US$4.5 billion in research activities across U.S. DOT operating administrations** focused on a range of key activities, including research on vulnerable road users, the impacts on roads from self-driving cars, and emerging alterative infrastructure. This work includes policy directions and investments in cybersecurity, investments in data infrastructure and data collection, and activities supporting workforce development in technology-related transportation fields.
- Metropolitan Planning **(US$2.3 billion)** will provide funding for a wide range of planning activities including the development of transportation plans and programs; planning, design, and evaluation of a public transportation project; and technical studies related to public transportation.

- Strengthening Mobility and Revolutionizing Transportation (SMART) grant (**US$1 billion**), a new competitive grant program that supports local, state, and tribal governments in conducting demonstration projects to advance smart city technologies (i.e., technologically modern urban areas that use different types of electronic methods and sensors to collect specific data), or community technologies and systems to improve transportation efficiency and safety.
- Reconnecting Communities Pilot Program **(US$1 billion)**, which will provide dedicated funding to local, state, and tribal government and MPOs for planning, design, demolition and reconstruction of street grids, parks and other infrastructure.
- Advanced Transportation Technologies and Innovation Mobility Deployment Program **(US$300-million)**, which provides competitive grants to deploy, install, and operate advanced transportation technologies to improve safety, mobility, efficiency, system performance, intermodal connectivity, and infrastructure return on investment.

This is only a sampling of the BIL programs driving the digitizing of transportation. The GBD U.S. infrastructure team has a complete listing of all the programs, including details.

Canadian companies offering (amongst others) transportation planning, mobility-on-demand, payment systems, traffic optimization, and control and vector mapping technologies/services should be well-positioned for a sustained pipeline of future opportunities with municipalities, State DOTs, the U.S. DOT, and metropolitan planning organizations.

We highly encourage Canadian companies to connect with industry associations such as the Association of Municipal Planning Organizations (AMPO), American Public Transportation Association (APTA), and Transportation Research Board (TRB), as well as their respective interest groups and committees, to gain visibility and network with decision makers at these organizations.

3. ABOUT THIS REPORT

ABOUT THIS REPORT

This EDC Global Business Development (GBD) U.S. infrastructure team report is part of a publication series of concise reports. The views expressed in this report are those of the author and shouldn't be attributed to EDC or our board of directors.

This report was authored by Yousef Salama, Shaun Naidu, Bianca Chitiu from EDC's GBD U.S. infrastructure team with contributions from our colleagues, Christelle Shirandi and Naz Guven. It was copy edited by Karen Turner and Janet Wilson.

For questions or comments, contact EDC Global Business Development, United States infrastructure team (USinfra@edc.ca**).**

For media inquiries, please email media@edc.ca.

About Export Development Canada

Export Development Canada (EDC) is a financial Crown corporation dedicated to helping Canadian businesses make an impact at home and abroad. EDC has the financial products and knowledge Canadian companies need to confidently enter new markets, reduce financial risk and grow their business as they go from local to global. Together, EDC and Canadian companies are building a more prosperous, stronger and sustainable economy for all Canadians.

For more information and to learn how we can help your company, call us at 1-800-229-0575 or visit www.edc.ca.

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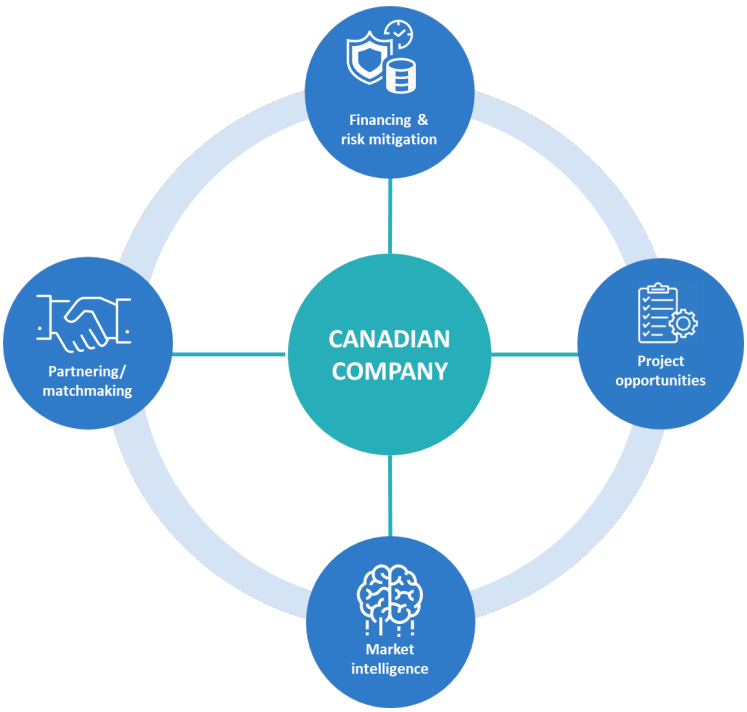
APPENDIX A: EDC SOLUTIONS



EDC'S APPROACH & PHILOSOPHY:
Take a long-term view, provide continuity through volatile market cycles, and back our clients with market, sector, and country expertise

For more than 75 years, EDC has supported the U.S. business activities of Canadian companies with a range of finance and insurance services. EDC serves nearly 27,000 clients globally, and our financing and insurance portfolios exceed C$76 billion and C$32 billion, respectively.

EDC Financial Highlights (C$)—2022—U.S. portfolio

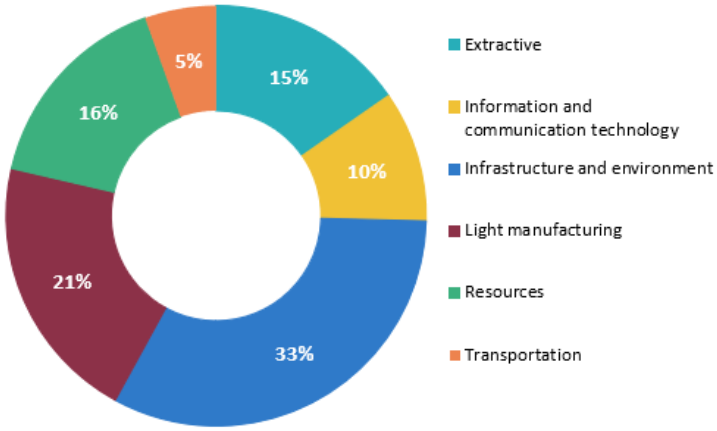
$63.4 BILLION IN TOTAL VOLUME

$6.1 BILLION IN FINANCING

4,469 CUSTOMERS SERVED

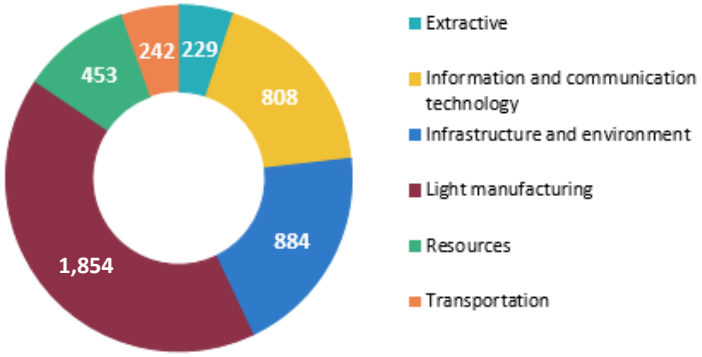
Business volumes by sector (U.S. portfolio)

As at Dec. 31, 2022



Customers served by sector (U.S. portfolio)

As at Dec. 31, 2022



EDC broadly categorizes its financing and insurance services/support in two categories:

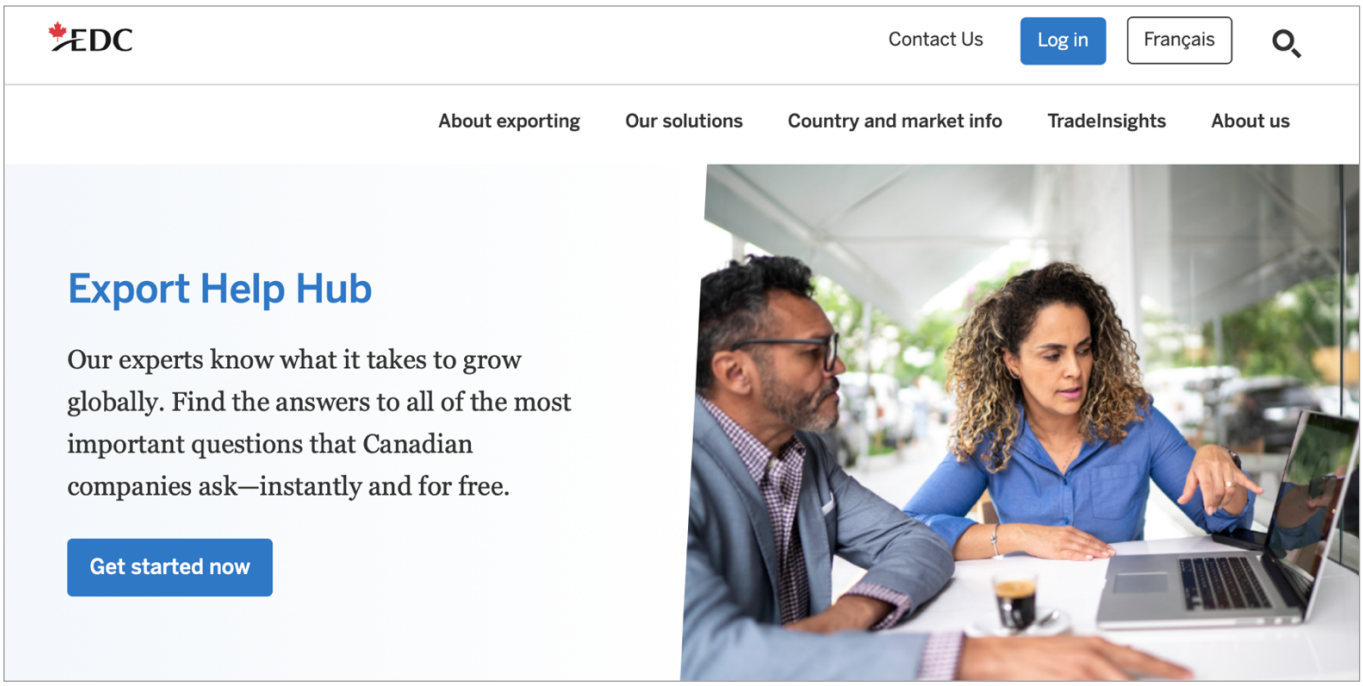
Trade facilitation

Supporting Canadian companies present business/sales, investments, or the companies' global expansion (e.g., merger & acquisition, debt and equity investments, etc.)

Trade diversification

Support which will help Canadian companies create future trade and win contracts with key international buyers, sponsors, etc. (e.g., capital projects, long-term operation and maintenance contracts, equipment orders, professional services contracts, asset monetarization's, etc.)

MARKET INTELLIGENCE



EDC provides market intelligence through its Export Help Hub (EHH). The EHH continues to post intelligence to help Canadian companies get the answers they need in a timely manner.

EDC's U.S. team conducted three roundtables in mid-2023 in Montreal, Toronto, and Vancouver. A total of 30 companies attended and participated in the U.S. strategy discussions, which helped support development of this report. EDC schedules 1:1 market soundings with Canadian and U.S. companies in the infrastructure sector on an ongoing basis to gain stakeholder insights.

EDC's U.S. team is looking to release additional updates, guides, blogs, articles, and videos about the infrastructure sector. For more information, please visit EHH or contact the U.S. team at USinfra@edc.ca

FINANCING SOLUTIONS

EDC offers various financing structures for a multiple use.

Potential Structures:	Common uses of funds:
• Loan guarantees* • Bilateral term loans • Syndicated facilities • Club lending • Structured and project finance	• Public-private partnership project • Mergers and acquisitions • Funding a foreign subsidiary or affiliate (working capital or CapEx) • New plant and/or establishment costs

**Loan guarantee: EDC can offer a guarantee to a Canadian financial institution (Export Guarantee Program (EGP) on money borrowed to enhance access to working capital. Credit enhancement to increase bank's risk appetite.*

Proven structured & project finance expertise

EDC's Structured and Project Finance (SPF) team maintains one of the largest and most experienced internationally focused project finance teams in Canada. The team has a full range of financing/arranging capabilities, from US$50 million to US$1+ billion projects.

The SPF team has significant experience in leading due diligence, directing technical and environmental assessments, developing financial models, and structuring the transaction, underwriting and supporting syndication; and drafting and negotiating documentation.

Since 1995, the SPF team has closed more than 575 transactions with total financing support exceeding US$45.5 billion. EDC's transactions have consistently been recognized as "Deals of the Year" by Project Finance International.

KEY CRITERIA FOR EDC SUPPORT:
Canadian Benefits, Environmental and Social Governance, project economics, sponsor profile and commitment, project counterparties, Country, Technical considerations.

The table below provides a sample of EDC's 2022 U.S. infrastructure financing transactions.

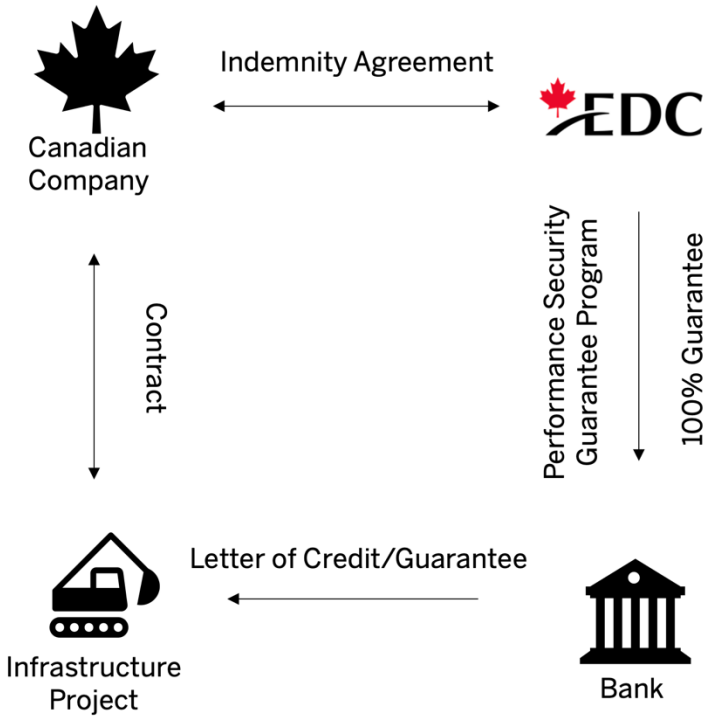
STANDARD SOLAR	LEEWARD renewable energy	aes	S·POWER An AES and AIMCo Company
Revolving Warehousing Facility	196MW Big Plain, 100MW Oak Trail and 200MW Horizon Solar Farms	19 operating Solar and Wind Assets—1.34GW	100MW Luna Project Battery Energy Storage
USD 200,000,000	**USD 623,000,000**	**USD 646,611,211**	**USD 112,680,000**
Warehousing/ Construction Facility	Project Financing	Refinancing	Project Financing
Lender	Mandated Lead Arranger	Lender	Joint Lead Arranger
2023	2022	2022	2020

BONDING & GUARANTEES

EDC's Account Performance Security Guarantee (APSG) is a working capital solution that helps facilitate the issuance of standby letters of guarantee and letters of credit by providing your bank with a 100% unconditional guarantee freeing up your cash or line of credit to improve your company's access to funds.

How does it improve access to funds and support your business?

The APSG replaces the collateral your bank normally needs to issue your letters of guarantee/credit, improving working capital and improving access to these useful international finance tools.



Letters of guarantee/credit can be used to support your business in many ways:

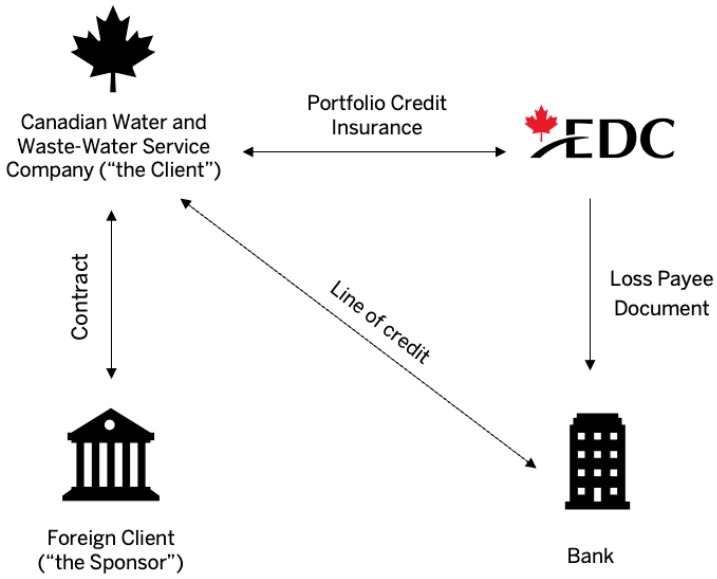
- Providing your customers with the financial assurance you'll meet your contractual obligations;
- Helping to negotiate open-account terms with suppliers, establishing more favourable payment schedule with your customers; or
- Replacing collateral for future equity contributions to new international development projects.

Key aspects of the Account Performance Security Guarantee (APSG):

- **Unsecured product backed by an indemnity obligation to EDC:** Meaning it typically doesn't impede your company's ability to grow your banking relationship with secured lenders.
- **Predictable pricing:** Fees are set for the term of the APSG, which operates in a similar way to an uncommitted line of credit, allowing you to build the costs into your contracts.
- **100% risk transfer for your bank partner(s):** Allows your bank to take EDC AAA risk allowing them to consider expanding credit capacity for your business.
- **Can support a wide variety of letters of guarantee/credit,** including, but not limited, to bid, performance, advance payment, warranty, lease, supplier, foreign acquisition, equity.

INSURANCE

EDC can offer protection for up to 90% of insured sales against non-payment of expected receivables, enabling companies to protect their profits and balance sheet, increase access to working capital and offer more competitive payment terms.



RELEVANT CASE STUDIES

Problem

A Canadian water and wastewater service-based company (the client) contracted with an international government agency (the sponsor) in charge of electricity and water systems development to help with operations and facilities management. The client and sponsor have worked together before, but the amount of work with the client has increased along with significant growth in accounts receivable.

EDC solution

The initial conversations between EDC and the client were to help them increase their line of credit with their Canadian bank. The client conducted a significant amount of international business, therefore, carried international accounts receivable (AR).

Following negotiations between the client and sponsor, they agreed on 90-day payment terms. The client's bank stated that they're unable to include international AR in the monthly line of credit "borrowing base" calculation, preventing the client from accessing full borrowing capacity.

After consultations between EDC, the client, and the bank, EDC provided a credit insurance policy on the international AR, giving the bank comfort in lending against the client's AR, and allowing the client to maximize access to working capital.

The client obtained EDC Credit Insurance, which:

- Increased peace of mind knowing sales to their new buyer are protected in event of non-payment
- Allowed more competitive bidding structure/payment terms
- Enhanced access to working capital from the bank by accessing lending value against their international accounts receivable

APPENDIX B: MINORITY ENTERPRISE DEFINITIONS

8A—Small business that's at least 51% owned by socially and economically disadvantaged individuals, certified by the U.S. Small Business Administration.

DBE—Small business where socially and economically disadvantaged individuals own at least 51% of the firm and control management and daily business operations, certified by the U.S. Department of Transportation.

MBE—Business that's at least 51% owned by minority individuals, certified by the National Minority Supplier Development Council.

SBE—Businesses that make < $750,000 annually and < 100 employees. The annual volume and number of employees may vary by industry. The SBE Program was created to make all state contracts, opportunities, and benefits available to small businesses without discrimination based on race, colour, religion, national origin, disability, age, or ancestry.

SDB—Small business in its primary industry that's at least 51% directly owned and controlled by one or more socially disadvantaged individuals, who are U.S. citizens and are economically disadvantaged, as certified by the U.S. Small Business Administration.

SDVOSB—Small business that's at least 51% owned and controlled by a service-disabled veteran, certified by the U.S. Department of Veterans Affairs.

VOSB—Small business that's at least 51% owned and controlled by a veteran, with the daily management operations also controlled by a veteran, as certified by the U.S. Department of Veterans Affairs.

WBE—Business that's at least 51% owned or controlled by one or more women, who are U.S. citizens or legal residents, as certified by the Women's Business Enterprise National Council.

WOSB—Business that's at least 51% owned or controlled by one or more women, who are U.S. citizens, as certified by the U.S. Small Business Administration or a third-party certification from the El Paso Hispanic Chamber of Commerce, National Women Business Owners Corporation, U.S. Women's Chamber of Commerce or Women's Business Enterprise National Council.

SWaM Virginia—Small, women-owned, and minority-owned business certification is a program of the commonwealth of Virginia that enhances procurement opportunities for SWaM businesses participating in state-funded projects.

APPENDIX C: WHO TO PARTNER WITH

The Engineering News-Record (ENR) attempts to bring structure to an otherwise huge and chaotic construction industry by performing annual surveys of its key segments, and ranking companies engaged in general contracting, specialty contracting, engineering, architecture and environmental services, and other specialties. The rankings, based on annual revenue at home and abroad, are further divided into specific market categories.

The following are select tables from ENR's top lists which provide a look at key players, based on prior year revenue (2022), in transportation, power, water, environment and design, and project management/construction management (PM-CM), respectively. EDC's GBD U.S. infrastructure team is available to network and make introductions with the listed companies.

TOP CONTRACTORS IN TRANSPORTATION

Mass transit and rail

Rank	Firm	Revenue (US$ mil.)
1	KIEWIT CORP	1,654.6
2	BECHTEL	1,390.2
3	SKANSKA USA	1,178.8
4	DRAGADOS US	914.4
5	HERZO	870.6
6	THE WALSH GROUP	832.2
7	FLUOR	428.2
8	BALFOUR BEATTY U	349.7
9	SHIMMIC	285.0
10	GRANITE CONSTRUCTION INC.	267.4

Airports including terminals

Rank	Firm	Revenue (US$ mil.)
1	HENSEL PHELPS	1,611.4
2	TURNER CONSTRUCTION COMPANY	886.5
3	THE WALSH GROUP	697.9
4	HOLDER CONSTRUCTION	667.0
5	AUSTIN INDUSTRIES	628.7
6	CLARK GROUP	556.6
7	BECHTEL	479.6
8	SKANKSKA USA	434.2

9	SATTERFIELD & PONTIKES CONSTRUCTION INC.	287.9
10	SUFFOLK CONSTRUCTION	274.7

Highways

Rank	Firm	Revenue (US$ mil.)
1	GRANITE CONSTRUCTION INC.	1,669.5
2	ALLAN MYERS	987.7
3	THE WALSH GROUP	942.1
4	LANE INDUSTRIES INC.	888.1
5	KIEWIT CORP.	822.8
6	OHLA USA INC.	717.5
7	FLUOR	696.7
8	FLATIRON CONSTRUCTION	615.2
9	DRAGADOS USA	533.7
10	AMES CONSTRUCTION INC.	506.0

TOP CONTRACTORS IN POWER

Wind

Rank	Firm	Revenue (US$ mil.)
1	INFRASTRUCTURE AND ENERGY ALTERNATIVES INC.	1,146.9
2	MORTENSON	602.9
3	BARTON MALOW HOLDINGS LLLC	140.8
4	KIEWIT CORP.	66.3
5	ELECTRICAL CONSULTANTS INC,	58.6
6	BURNS & MCDONNELL	55.8
7	BECHTEL	45.5
8	THE BOLDT COMPANY	24.5
9	WOOD	21.8
10	DIMEO CONSTRUCTION COMPANY	15.5

Solar

Rank	Firm	Revenue (US$ mil.)
1	SWINERTON	1,289.8
2	MCCARTHY HOLDINGS INC.	985.7
3	MORTENSON	924.8
4	MOSS	801.4
5	PCL CONSTRUCTION	520.7
6	KIEWIT CORP.	414.9
7	BLACK & VEATCH	380.7
8	INFRASTRUCTURE AND ENERGY ALTERNATIVES INC.	380.7
9	ELECTRICAL CONSULTANTS INC.	306.1
10	NEXAMP	266.0

TOP CONTRACTORS IN WATER

Wastewater treatment plants

Rank	Firm	Revenue (US$ mil.)
1	THE WALSH GROUP	382.3
2	MWH	356.4
3	KIEWIT CORP.	306.2
4	GARNEY CONSTRUCTION	269.9
5	WHARTON-SMITH INC.	257.4
6	SUNDT CONSTRUCTION INC.	248.1
7	MCCARTHY BUILDING COMPANIES, INC.	194.4
8	ULLIMAN SCHUTTE CONSTRUCTION LLC	189.0
9	BRASFIELD & GORRIE LLC	134.3
10	MIRON CONSTRUCTION CO. INC.	131.8

Water treatment and desalination

Rank	Firm	Revenue (US$ mil.)
1	KIEWIT CORP.	348.7
2	THE WALSH GROUP	302.2
3	GARNEY CONSTRUCTION	260.0
4	PCL CONSTRUCTION	250.5
5	CDM SMITH	216.9

6	MWH	208.7
7	GRANITE CONSTRUCTION INC.	173.4
8	SHIMMICK	167.8
9	SOUTHLAND HOLDINGS LLC	113.8
10	ALBERICI	111.5

TOP 10 ALL-IN ENVIRONMENTAL FIRMS

Rank	Firm	Revenue (US$ mil.)
1	VEOLIA ENVIRONMENT	$33,729.0
2	CLEAN HARBORS INC.	$3,805.6
3	TETRA TECH INC.	$3,306.0
4	SUEZ NORTH AMERICA	$1,200.0
5	ERM	$1,151.1
6	GARNEY CONSTRUCTION	$1,068.4
7	U.S. ECOLOGY INC.	$988.0
8	CLEAN EARTH INC.	$780.3
9	MONTROSE ENVIRONMENTAL GROUP INC.	$546.4
10	BROWN AND CALDWELL	$453.6

TOP 20 ALL-CONSTRUCTION MANAGEMENT-PROJECT MANAGEMENT PROFESSIONAL SERVICES REVENUE FIRMS

Rank	Firm	Revenue (US$ mil.)
1	JACOBS SOLUTIONS INC.	$14,860.6
2	AECOM	$9,639.4
3	FLUOR	$4,510.6
4	BECHTEL	$4,401.0
5	TETRA TECH	$4,230.0
6	WSP USA	$4,046.5
7	PARSONS CORPORATION	$3,735.9
8	HDR	$3,186.6
9	BURNS & MCDONNELL	$2,691.8
10	STANTEC INC.	$2,348.2
11	KIMLEY-HORN	$2,034.8
12	CBRE	$2,028.0

13	ARCADIS NORTH AMERICA	$1,992.4
14	WORLEY	$1,967.2
15	JLL	$1,858.0
16	GENSLER	$1,785.0
17	BLACK & VEATCH	$1,585.8
18	HNTB CORPORATION	$1,556.9
19	SNC-LAVALIN GROUP	$1,499.6
20	TRC COMPANIES INC.	$1,227.6

MINORITY ENTERPRISE LISTINGS

Top MBE/DBE, etc. firms

EDC has included a list of top-performing MBE/DBEs, etc. in the U.S., according to the *American Builders and Contractors (ABC) Top Performers 2023* report[59].

Rank	Firm	Location	Qualification
30	CROSSLAND CONSTRUCTION CO.,	Kansas	MBE
55	M. DAVIS & SONS. INC.	Delaware	WBE
65	SEVAN MULTI-SITE SOLUTIONS	Illinois	VOSB
73	RODGERS BUILDERS	North Carolina	WBE
99	STRONGHOLD ENGINEERING. INC.	California	MBE. WBE
113	WIESER BROTHERS GENERAL	Minnesota	8A
126	MARKER. INC.	Ohio	WBE
130	COMFORT SYSTEMS OF VIRGINIA,	Virginia	WOSB, SWaM
134	CENTRAL ELECTRIC ENT. & CO.	Texas	MBE. SBE
140	HALEY-GREER. INC.	Texas	WBE
142	CMS CORPORATION	Indiana	MBE
148	DURR HEAVY CONSTRUCTION. LLC	Louisiana	WBE. WOSB
150	SR TRIDENT. INC	Texas	SDVOSB
154	S. W. FUNK INDUSTRIAL	Virginia	VOSB
172	METCON INCORPORATED	North Carolina	MBE
177	BROTHERS MECHANICAL. INC.	Virginia	SDB
184	GIBBS CONSTRUCTION. LLC	Louisiana	WBE
185	A/C TECHNICAL SERVICES. LLC	Texas	MBE. WBE. WOSB
190	LANDIS CONSTRUCTION	Louisiana	WBE

[59] American Builders and Contractors 2023 Top Performers

203	HOLES INCORPORATED	Texas	WBE, WOSB, SBE
204	GREAT LAKES BAY	Michigan	SDB
206	BRITE ELECTRIC	Virginia	SWaM, SBE
216	SDV CONSTRUCTION, INC.	New Mexico	SDVOSB, VOSB
226	ALPHA BUILDING CORPORATION	Texas	WBE, WOSB
227	YORK ELECTRONIC SYSTEMS, INC.	Oklahoma	DBE, MBE, WBE,
233	ENVIROCONTROL SYSTEMS	Ohio	WBE, WOSB
240	J. D. JAMES, INC. D/B/A NATURE	Florida	WBE, WOSB
246	TINY'S CONSTRUCTION, LLC	Tennessee	VOSB, WOSB
249	PARADIGM MECHANICAL CORP	California	8A, DBE, WBE, WOSB

Listing of metropolitan planning organizations (MPOs)

MPO	Location	Mandate
Southern California Association of Governments (SCAG)	Los Angeles, CALIFORNIA	Covers six counties in Southern California, addressing transportation and land-use challenges in the Los Angeles metropolitan area.
Metropolitan Transportation Commission (MTC)	San Francisco, CALIFORNIA	Serves the San Francisco Bay area, focusing on transportation planning, funding, and sustainability.
San Diego Association of Governments (SANDAG)	San Diego, CALIFORNIA	Is both an MPO and Council of Governments, developing solutions to regional issues such as transportation, etc. in the San Diego region
Houston-Galveston Area Council (H-GAC)	Houston, TEXAS	MPO for the Houston-Galveston area, dealing with transportation, air quality, and resilience planning.
North Central Texas Council of Governments	Dallas, TEXAS	Is both an MPO and Council of Governments, planning and recommending transportation projects in the Dallas-Fort Worth region.
Chicago Metropolitan Agency for Planning (CMAP)	Chicago, ILLINOIS	Covers the Chicago metropolitan area, emphasizing integrated transportation and land-use planning.
Atlanta Regional Commission (ARC)	Atlanta, GEORGIA	Focuses on transportation, land-use, and environmental issues in the Atlanta metropolitan area.
Miami-Dade Transportation Planning Organization	Miami, FLORIDA	Guides the transportation planning process in Miami-Dade County.
New York Metropolitan Transportation Council (NYMTC)	New York City, NEW YORK	Provides planning, regional plans and decisions on the use of federal transportation funds for the New York City, Long Island, and the lower Hudson Valley.

Delaware Valley Regional Planning Commission (DVRPC)	Philadelphia, PENNSYLVANIA	Serves the Greater Philadelphia region, working on transportation, land-use, and economic development planning.
Metropolitan Washington Council of Governments (MWCOG)	Washington, DISTRICT OF COLUMBIA	Co-ordinates transportation planning and policy for the Washington, D.C. metropolitan region.

Industry associations

Industry association	Mandate
Association for the Improvement of American Infrastructure (AIAI)	AIAI is an action-driven, member-led organization made up of the leading minds in the industry, solely dedicated to moving P3s forward and strengthening American infrastructure.
American Road & Transportation Builders Association (ARTBA)	Advocates for infrastructure investments and policies who meet the nation's need for safe and efficient travel
National Governors Association (NGA)	The NGA is the voice of the leaders of 55 states, territories, and commonwealths. Through NGA, governors identify priority issues and deal with matters of public policy and governance at the state, national and global levels. NGA is the premier resource for not only governors, but also for their cabinet members, state policy experts, the U.S. Congress, and private enterprise.
United States Conference of Mayors (USCM)	The USCM is the official non-partisan organization of cities with a population of 30,000 or larger. Each city is represented by its mayor. As the leading voice for cities in the nation's capital, USCM brings together mayors from across the country to engage with the White House, Administration, and Congress to ensure that federal policy addresses the priorities of cities.
Electrification Coalition (EC)	The EC is a non-partisan, non-profit organization that develops and implements a broad set of strategies to facilitate the widespread adoption of electric vehicles to overcome the economic, public health, and national security challenges that stem from America's dependence on oil.
American Association of State Highway and Transportation Officials (AASHTO)	AASHTO works to educate the public and key decision-makers about the critical role that transportation plays in securing a good quality of life and sound economy for our nation.
American Public Transportation Association (APTA)	APTA leads public transportation in a new mobility era, advocating to connect and build thriving communities.

Association of Metropolitan Planning Organizations (AMPO)	AMPO's mission is to help communities thrive by strengthening the MPOs that plan for safe, reliable, and equitable multi-modal transportation networks that are accessible to all.
Associated General Contractors of America (AGC)	The AGC is the organization of choice for those associated with the construction industry.
National Association of City Transportation Officials (NACTO)	NACTO is an association of 96 major North American cities and transit agencies formed to exchange transportation ideas, insights, and practices and co-operatively approach national transportation issues.
American Clean Power	American Clean Power is the voice of companies from across the clean power sector that are powering America's future and providing cost-effective solutions to the climate crisis, while creating jobs, spurring massive investment in the U.S. economy, and driving high-tech innovation across the nation.

APPENDIX D: ON THE RADAR

UPCOMING LEGISLATION TRACKER

EDC is tracking the following legislation and will provide updates in future reports:

01	**H.R. 490** – Establishes Federal Infrastructure Bank to facilitate investment and long-term financing of public infrastructure	08	**MA – SB2069:** An act providing for alternative delivery of infrastructure projects
02	**IL - SB1919 / AB 3927:** Creates the *Public-Private Partnerships Act*	09	**CA – SB617:** Would authorize local agencies to use the progressive design-build process for up to 15 public works projects in excess of US$5 million
03	**TX – SB1984:** Relating to P3s for public and private facilities and infrastructure. **TX -** US$840.6-million bond package will go to Katy Independent School District voters in November 2023 to fund new schools, campus renovations, and upgrades in security, technology, and athletic facilities.	10	**NJ – S3565 / A5170:** Establishes "Energy Infrastructure P3 Program" and related financing program in NJ Infrastructure Bank; and authorizes certain energy contracts up to 30 years

04	**HI – SB1247 / HB1292:** Requires the Hawaii State Energy Office to enter a P3 to develop a waste-to-energy generating facility	11	**WA – HB 1584**: Planning for advanced nuclear reactor technology in Washington
05	**LA – SB50:** Creation of the Calcasieu Parish Tolling Authority.	12	**MN – HF 2336:** Establish the Minnesota Climate Innovation Finance Authority to provide financing and leverage private investment for clean energy
06	**MD – SB412:** Establishes the Maryland Rail Authority to oversee capital projects	13	**MA – SB675:** Creating a climate bank to evaluate, coordinate and facilitate innovative financing solutions for climate and clean energy innovations
07	**MD – SB467:** Establishes a Workgroup to study viability of P3 for Calvert County Public Schools	14	**NY - AA00279/S04134:** Implements the *New York State Build Public Renewables Act*; requires the New York power authority to provide only renewable energy and power to customer

FUTURE PROJECTS

EDC is tracking transportation, environmental and social projects across various jurisdictions and will provide updates in future intelligence reports. Below is a sample of future transportation projects.

Transportation Infrastructure Projects

#	Project Name	Location
1	Metro (Houston): Rapid University Corridor BRT	TEXAS
2	NJ Transit: Hudson Bergen Light Rail Extension Project	NEW JERSEY
3	Burnham Yard Project	COLORADO
4	CapMetro/ATP (Austin): Blue Line LRT Project + Orange Line LRT Project	TEXAS
5	UDOT/UTA: Little Cottonwood Gondola + Point Of The Mountain Transit Project	UTAH
6	La Metro: Eastside Transit Corridor Phase 2 + West Santa Ana Transit Corridor LRT	CALIFORNIA
7	I-77 Charlotte And South Carolina Express Lanes P3	SOUTH CAROLINA/NORTH CAROLINA
8	Marta (Atlanta): Clifton Corridor Transit Initiative	GEORGIA
9	NYMTA: Interborough Express	NEW YORK
10	BART (San Francisco): Link21 (Underground Train Crossing Project)	CALFORNIA

APPENDIX E: BUDGET DETAILS AND PROJECT OPPORTUNITIES FOR VARIOUS STATES

*Unless expressed otherwise, all figures are in US dollars

CALIFORNIA

Overview

After two years of unprecedented general fund revenue growth, California faces a downturn in revenues, driven by persistently high inflation, rising interest rates, and job losses in high-wage sectors—all of which have led to slower revenue growth than previously projected[60].

In June and July 2023, Gov. Gavin Newsom signed the *2023 Budget Bill* and various pieces of related legislation that were passed by the legislature to implement the budget for the 2023-24 fiscal year. The budget spends $310.8 billion in total state funds, consisting of about $225.9 billion from the general fund, $82 billion from special funds, and $2.9 billion from bond funds.

The budget includes a balanced package of solutions to bridge an approximate $31.7 billion shortfall, while avoiding deep and damaging program cuts. These solutions include:

- $8.1 billion in general fund spending reductions or pullbacks of previously approved spending;
- $7.9 billion in delayed spending across multiple years—without reducing the total amount of funding over the same period; and,
- $9.3 billion in shifts of spending commitments from the general fund to other funds/financing, such as bond issuances[61].

Transportation

The budget includes $16.1 billion for new transportation infrastructure programs and projects, an increase of $1.1 billion compared to the 2022 budget. This considerable level of investment will position the state to continue pursuing significant federal funding through the BIL and other federal programs by leveraging funding from both state and local sources. To date, California has secured $39 billion in BIL funding for highway and transit programs and has already received billions in competitive federal transportation grants, with the possibility of billions more over the five years of BIL implementation.

Caltrans, California's Department of Transportation, will continue delivering more than $20 billion in planned state highway repair and rehabilitation projects in the State Highway Operations and Protection Program (SHOPP) over the next five years. A database of these projects can be found in the SHOPP Ten-Year Project Book. Caltrans will also allocate almost $12 billion of local assistance direct funding.

[60] California State Budget 2023-2024 'Introduction"
[61] Ibid 39

Public transit

California's three major metropolitan areas—San Diego (San Diego Association of Governments, SANDAG), Los Angeles (LA Metro), and San Francisco (Bay Area Rapid Transit, BART)—each have active transit-oriented capital programs.

Future transit mega projects include:

- SANDAG: $4 billion+ Airport Transit Connection: Central Mobility Hub
- LA Metro: $5 billion+ West Santa Ana Branch Transit Corridor (WSAB) project and the $8 billion+ Eastside Transit Corridor Phase 2 project
- BART: $29 billion+ Link 21 (underground passenger train crossing project)

In the State of California, metropolitan planning organizations such as SANDAG, the Southern California Association of Governments (SCAG), and the Metropolitan Transportation Commission (MTC) in the Bay area, can be a vital source of long-range transportation planning and funding information/data, as well as network and procurement opportunities for Canadian companies.

Education

The budget includes total funding of $40 billion ($27 billion general fund and local property tax, and $13 billion in other funds) for all higher education entities in 2023-24. The state's three public segments are the University of California (UC), the California State University (CSU), and the California Community Colleges (CCCs).

The *2021 Budget Act* established the Higher Education Student Housing Grant Program to provide grants for the UC, CSU, and CCC systems to construct student housing, or acquire and renovate commercial properties into student housing for low-income students. The *2022 Budget Act* allocated approximately $1.4 billion one-time general fund to the three campuses for this program, and the state planned to provide an additional $750 million in 2023-24[62].

For nearly all upcoming mega projects, including student housing and clean energy, the state budget shifts funding from general fund support to issued bonds by the respective public segment, UC, CSU or CCC. The budget shifts[63] include:

- $498 million in current and planned general fund support for the $700 million+ UC Berkeley Clean Energy Campus Project[64] to UC-issued bonds;
- $329.8 million appropriated for the upfront support of various capital projects on CSU campuses to being supported by CSU-issued bonds;
- $201 million in general fund support provided in the *2021 Budget Act* to support Cal Poly Humboldt Infrastructure projects from the general fund to CSU-issued bonds;

[62] Ibid 39

[63] Ibid 39

[64] Also see: Whiting, Sam (2023) "UC Berkeley to embark on $700 million plan to supply its entire campus with clean energy." San Francisco Chronicle, April 27, 2023

- $655 million in current and planned general fund support for CSU affordable student housing grants from the general fund to CSU-issued bonds; and,
- $1.1 billion in current and planned general fund support for CCC affordable student housing grants from general fund to CCC-issued bonds.

Moving forward, Canadian Institutional Investment and Pension Funds expect plenty of financing opportunities. In addition, student housing projects at UC, CSU and CCCs, as well as the UC Berkeley Clean Energy Campus Project, may be prime candidates for future public-private partnership opportunities.

Environment

The budget allocates $52.3 billion over the next six years toward climate change-related investments. The administration continues to pursue available federal climate funding, including the *Inflation Reduction Act* (IRA) and BIL, and will also engage the legislature to explore a climate resilience bond.

California has adopted numerous climate change mitigation measures over the past two decades. This includes:

- establishing a carbon-capture and storage program, with a regulatory and permitting process by 2025 (i.e., Chapter 359 of Senate Bill 905, 2022);
- renewable sources, which must supply 60% of retail electricity by 2030 (i.e., Chapter 312 of Senate Bill 1020, 2018);
- regulating that all new passenger vehicles sold must be zero emission or hybrid electric by 2035 (i.e., Advanced Clean Cars II Regulation of 2022);
- regulating state agencies to target net zero greenhouse gas (GHG) emission by 2035 (i.e., Chapter 368 of Senate Bill 1203); and
- regulating that renewable and zero carbon sources must supply 90%, 95% and 100% of retail electricity by 2035, 2040 and 2050, respectively (i.e., Chapter 361 of Senate Bill 1020, 2022).

The legislature has designated the California Air Resources Board (CARB) as the lead agency responsible for addressing GHG emissions. While CARB administers many of the state's major climate policies, some are led by other state agencies. For example, renewable portfolio standards, energy efficiency programs, and other programs related to reducing emissions in the electricity sector are administered primarily by the California Energy Commissions (CEC) and the California Public Utilities Commission (CPUC).

Mega projects/programs related to climate change investments include:

- **Zero emission vehicles (ZEV)**: $10 billion over five years in investments to the state's ZEV agenda—ranging from cleaning up short-haul trucks and school buses to accelerating equitable electrification of passenger vehicles—coupled with infrastructure and incentives for in-state manufacturing.
- **Transit Intercity Rail Capital & Zero-Emission Transit Capital programs:** The budget provides $5.1 billion in additional program funding, as part of the $8.8-billion multi-year augmentation for local transit capital infrastructure and zero emission vehicle projects.

- **Energy:** $7 billion for building decarbonization, transmission development, and long duration energy storage. The budget included a $2.9-billion reduction to the general fund and $863-million general fund in delays to future years. Affected programs impacted include, but aren't limited to, residential solar and storage, long duration energy storage, and equitable building decarbonization. These are offset in part by a $1.1-billion fund shift to Greenhouse Gas Reduction Fund.

ILLINOIS

Overview

Rebuild Illinois, the state's historic, $45-billion capital plan, is not only the largest revitalization plan in Illinois' history, but also among the largest in the nation, with $33.2 billion allocated to transportation, and supporting an estimated 540,000 direct, indirect, and induced jobs throughout the life of the six-year plan (approximately 90,000 jobs per year).

The BIL will put an additional $17.8 billion into infrastructure projects funded by Rebuild Illinois.

Transportation

Rebuild Illinois allocates $33.2 billion toward transportation, making it the largest transportation capital program in state history. This includes $25.3 billion for roads and bridges; $4.6 billion for mass transit; and $1 billion for intercity rail.

The recommended fiscal year 2024 capital budget for Illinois Department of Transportation (IDOT) totals $26.5 billion, including $3.3 billion in new appropriations and $23.2 billion in re-appropriations.

The proposed fiscal year 2024 budget includes several new and re-appropriated multi-modal transportation appropriations for mass transit, rail, aeronautics, and ports, including:

- $4.9 billion in new and reappropriated funding to invest in mass transit, including downstate transit and the Regional Transportation Authority (RTA);
- $2.4 billion for freight and passenger rail, including $722.5 million in funding for the Chicago Region Environmental and Transportation Efficiency (CREATE) Program;
- $583.0 million for aeronautics projects; and
- $148.8 million for investments in ports, including the Alexander-Cairo Port District.

A complete listing of all regionally significant expressway projects in the Chicago Metropolitan area can be found on the Chicago Metropolitan Agency for Planning (CMAP) website.

Through Rebuild Illinois, IDOT will also make several important investments in intercity passenger rail. Improvements include additional funding of the:

- Chicago-to-Quad Cities passenger rail expansion ($225 million);
- Chicago-to-Rockford passenger rail expansion ($275 million);
- Capacity improvements on the existing Chicago-to-Carbondale corridor ($100 million); and

- Springfield's 10th Street Rail Improvements Project ($122 million).

IDOT continually seeks innovative solutions to meet the growing transportation needs of Illinois. The Bureau of Innovative Project Delivery (IPD Bureau) was established in 2016 to identify, evaluate, and develop projects that may benefit from innovative approaches, including the use of various forms of project delivery allowable under law, including construction manager/general contractor/design-build/progressive design- build. Recently, the IPD Bureau has been evaluating the feasibility of bridge bundling, focused on bridge and culvert replacement. See a complete listing of the IPD Bureau's FY2024-2029 Potential Projects list.

In 2023-2024, the Illinois Tollway plans issue a request for proposal to advance oases and toll plaza redevelopment[65]. This RFP would evaluate existing and potential future right-of-way needs to determine if any land can be deemed excess and sold to be put back into productive use. There are currently six oases (rest and refuel stops) along the Illinois Tollway; several of these locations will see their operating leases expire throughout the current decade, and all the oases are in need for refurbishment and/or construction of new structures. This future project could develop in similar nature to the Ontario Highway Service Centres Project.

Legislators are currently reviewing House Bill 3927 / Senate Bill 1919, creating *the Public-Private Partnership Act*, which authorizes public entities (i.e., state agencies) to develop and enter into P3s in virtually all areas of infrastructure while creating the Infrastructure Investment Commission to support their development.

Future transportation projects include the I-55 Managed Lanes, in which Illinois legislators approved a Joint Resolution (HJR23) in June 2023 to move forward as a public-private partnership (P3), and the I-290 Eisenhower Reconstruction and Managed Lanes Project, which received a Final Environmental Impact Statement (FEIS) in June 2017.

Public transit

Rebuild Illinois provides $294 million to the Chicago Transit Authority to purchase 7000-series rail cars to replace the 2600-series rail cars that have been in service for an average of 36 years. Rebuild Illinois will also provide $156 million to complete bridge improvements along the Union Pacific North Line. Metra is currently completing preliminary engineering and environmental approval processes. The project will modernize 11 railroad bridges and other infrastructure components that are nearly 120 years old, as well as infrastructure from Fullerton Avenue to Cornelia Avenue along Metra's UP-North Line.

The Chicago Transit Authority (CTA) has developed Federal Transit Administration (FTA)-compliant Bus and Rail Fleet Management Plans (FMPs) to guide major capital investments in the revenue vehicle fleet. This includes the purchase of up to 1,500 new buses by 2033 and transition to an all-electric bus fleet by 2040[66], as described in CTA's Charging Forward report.

[65] Please refer to page 127 "Planning"
[66] Please refer to page 67 "Fleet Management Plans"

A complete listing of all regionally significant transit projects in the Chicago Metropolitan area can be found on the Chicago Metropolitan Agency for Planning (CMAP) website.

Education

The 2024 budget provides $2.3 billion toward investments in higher education. This includes:

- More than $105 million for the construction of a Health Sciences Building at Southern Illinois University Edwardsville (SIUE);
- More than $100 million for the construction of a Center for Performing Arts (CPA) at Western Illinois University (WIU);
- $500 million for infrastructure investments for the Discovery Partners Institute (DPI) and Illinois Innovation Network (IIN) initiatives, which include $235 million for New DPI Institute for Education and Research Building; and
- $140 million for renovation of Altgeld Hall and replacement of Illini Hall at University of Illinois Urbana-Champaign.

Environment

The 2024 budget includes $450 million in new appropriation authority to assist communities in need of low-interest funding to make necessary improvements to their wastewater treatment facilities through the Clean Water Loan Program. This program provides municipalities with funding to address two categories of polluted water: Stormwater and wastewater.

Meanwhile, the BIL will provide approximately $418.1 million in supplemental funding during fiscal years 2023 through 2027 for additional drinking water infrastructure loans, and approximately $142.5 million during the same period to address emerging contaminants in drinking water, including per- and polyfluoroalkyl substances (PFAS).

NEW YORK

Overview

New York's FY 2024 Enacted Capital Plan makes priority investments in housing, mental health, public safety, and health care, while continuing infrastructure investments across the state, including:

- Five-year capital plans for transportation and housing
- The first year of the *Clean Water, Clean Air, and Green Jobs Bond Act*
- Investments in clean water and renewable energy infrastructure;
- A comprehensive plan to deliver broadband access
- Increased support for State University of New York (SUNY) and City University of New York (CUNY) campuses
- Continuing regional economic development and community revitalization projects

Transportation

The FY 2024 Enacted Budget reflects the second year of a $32.9 billion, five-year Department of Transportation (DOT) Capital Plan that will improve the state's roads, bridges, airports, rail facilities, ports, and other transit systems.

For FY 2024, the Capital Plan includes funding of:

- $638 million for the CHIPS (Consolidated Highway Improvement Program) and Marchiselli local highway and bridge programs;
- $100 million for extreme winter recovery; and
- $200 million to fund local bridge projects from the BRIDGE NY program, as part of a $1 billion total commitment over the five-year plan.

Transformative transportation infrastructure projects underway with funding partners (e.g., federal and local governments, and public authorities) include the:

- Gateway Hudson Tunnel Project ($109.9 billion);
- MTA Capital Plan 2020-2024 ($50 billion+):
- Commuter-First Penn Station ($22 billion); and
- Transform JFK project ($19 billion).

Transit

The Metropolitan Transportation Authority's (MTA) $52.1-billion 2020-2024 Capital Program represents the largest investment in MTA infrastructure in state history. The state secured $25 billion in financing to directly support the MTA's 2020-2024 Capital Program, consisting of $15 billion from the Central Business District Tolling Program and $10 billion from other tax sources. In 2020, the state also appropriated $3 billion to fund the MTA's 2020-2024 Capital Program and secured an equal New York City match to this investment.

The Capital Program will increase accessibility by making 70 additional subway stations ADA-accessible so that stations serving over 60 percent of passengers will be fully accessible. In May 2023, the MTA reached financial close on a $754.4M subway station accessibility P3 project[67], the first of its kind.

Future MTA mega projects include the $6.3-billion Second Avenue Subway, Phase II, and the 14-mile Interborough Express Project. It's anticipated that the MTA will continue to pursue future accessibility projects for the Long Island Railroad (LIRR) and Metro-North lines[68]. A complete listing of MTA projects can be found on the MTA Capital Plan Dashboard.

[67] Acharya, Tanvi (2023) "MTA's first P3 project reaches FC", IJ Global, May 10, 2023
[68] NY MTA (2022) "MTA Announces Accessibility Upgrades at Multiple Subway and LIRR Stations"

Education

The Capital Plan provides SUNY and CUNY with $8.2 billion in new appropriations over the five-year period. New capital funding will allow the university systems to maintain existing capital infrastructure, as well as advance new capital investments.

The five-year plan includes $5.6 billion to support infrastructure improvements at SUNY state operated campuses and CUNY senior colleges ($3.5 billion for SUNY and $2.1 billion for CUNY), and $646 million to match local sponsor funding for community college capital projects.

Read more about the SUNY 2022-23 Master Capital Plan Report and the CUNY Five-Year Capital Improvement Plan (FY 2022-23 through FY 2026-27).

Housing & environment

The FY 2024 budget continues the $25 billion, five-year housing plan to create and preserve 100,000 affordable homes, including 10,000 homes with support services for vulnerable populations. It also includes funds to electrify an additional 50,000 homes as part of the state's plan to electrify one million homes, and make another one million electrification-ready, to help meet the greenhouse gas emissions targets set by the Climate Leadership and Community Protection Act (CLCPA). Multi-year funding for the five-year housing plan consists of $5.7 billion in state capital resources, and $19 billion in funding from federal, local, and public authorities.

Other major projects

- New York Racing Association (NYRA): The enacted budget includes $455 million in capital to fund the redevelopment of Belmont Racetrack. The project will result in the creation of new tracks and parking, as well as the construction of a new clubhouse. This project will facilitate the move of Aqueduct racing to Belmont, allowing the state to repurpose the Aqueduct property. NYRA is expected to repay the state for the entire cost of the project using funds dedicated to capital improvements.
- Wadsworth Center: The budget includes a $1.7 billion investment to support the Wadsworth Center Laboratories and Research reconstruction effort. A portion of the funding, $750 million, was appropriated in the FY 2018 Enacted Budget. Funds were. originally appropriated for a new building housing all of Wadsworth Lab's activities under one roof, but due to the pandemic and inflation, construction was divided into two phases. This proposal would support costs for building both phases.

For Canadian companies looking to navigate and connect into the New York market (including the tristate area, which includes New Jersey and Connecticut), the Regional Plan Association (RPA) may be a key resource. The RPA is an independent non-profit civic organization that conducts research on the environment, land use, and good governance, and advises cities, communities, and public agencies. Some of the region's most significant public works, economic development initiatives, and open-space projects have their roots in RPA ideas and initiatives.

FLORIDA

Overview

In 2022, Florida experienced the largest percentage increase in population migration, making it the fastest-growing state in the country. To sustain their ever-growing population, Gov. Ron DeSantis signed a record-high state budget into law for fiscal year 2023-2024 of $116.6 billion, which started July 1, 2023.

Transportation

The budget invests $4 billion into the Moving Florida Forward Initiative, a new initiative to address the challenge of congestion on Florida's highways and roads. It will accelerate the development and completion of transportation projects to provide additional highway and road capacity to meet the needs of Florida's ever-growing economy and population.

Future major projects include:

- $635-million Interstate 4 (I-4) from U.S. 27 to Champions Gate (construction year 2027);
- $1.3-billion Poinciana Parkway Extension Connector from County Road (C.R.) 532 to State Road (S.R.) 429 (construction year 2027); and
- $578-million Interstate 75 (I-75) from Golden Gate Parkway to Corkscrew Road (construction year 2027).

In addition to the $4-billion Moving Florida Forward Initiative, the budget includes $13.9 billion to the Florida Department of Transportation's (FDOT) State Transportation Work Program. This investment will provide for the retention and creation of more than 254,000 jobs.

This year's investment in the work program includes:

- $5.5 billion for highway construction to include 118 new lane miles;
- $1.6 billion to resurface 2,632 lane miles;
- $404.3 million for aviation improvements;
- $726.6 million in scheduled repairs for 65 bridges and replacement of 19 bridges; and
- $791.3-million investment in rail and transit projects.

See a listing of all major projects on Florida's highways.

Transit

Miami-Dade County's SMART Program is advancing five of six rapid transit corridors of the People's Transportation Plan (PTP), implementing an expanded mass-transit infrastructure in Miami-Dade County. It's the implementation of a vision for the region that's both strategic and far-reaching, creating a system of multiple transportation options by leveraging existing infrastructure, and integrating technology at the highest levels.

Future major projects include:

- North Corridor Project ($1.9 billion);
- Beach Corridor (Baylink) project[69] ($1.3 billion); and
- Northeast Corridor project ($682 million).

For Canadian companies seeking more information and networking opportunities in transportation and transit in Miami-Dade County, contact the Miami-Dade Transportation Planning Organization (Miami-Dade TPO).

Education

The budget provides $1.2 billion in funding for education capital outlay initiatives, including $218 million for Florida college system (i.e., Miami Dade College, Florida State College at Jacksonville, Broward College, etc.), and $616 million for state university system (i.e., Florida State University, University of Florida, University of Central Florida, University of South Florida, Florida International University, etc.).

Major projects include:

- **University of Florida:** $400-million Ben Hill Griffin Stadium Facility upgrades; $128.3-million dental building addition; and $215-million Biomedical and Life Sciences Research Building
- **University of South Florida**: New Environmental and Oceanographic Sciences Research and Teaching facility on the USF St. Petersburg campus and a new nursing/STEM facility on the USF Sarasota-Manatee campus
- Florida State University, which includes a listing of many capital projects.

Environment

The budget includes $7.2 billion in funding to protect the state's environment, agriculture, and natural resources, including more than $3.8 billion, specifically for the Department of Environmental Protection (DEP).

In Executive Order 19-12, and Executive Order 23-06, among other major environmental reforms, Gov. DeSantis called for $2.5 billion to be invested over four years for the protection of water resources, an increase of $1 billion over the previous four years, and $3.5 billion over the next four years for Everglades restoration and protection of water resources, including water quality and water supply respectively.

Major environmental programs include:

- $356.5 million for the Comprehensive Everglades Restoration Plan (CERP);
- $398.3 million for local water quality and supply projects; and
- $356 million for resiliency, including $300 million for implementation of statewide resilience projects and $56 million for resiliency planning and coral reef protection.

The $3.9-billon Central Everglades Planning Project (CEPP) will set the foundation for restoring the central portion of the Everglades ecosystem and sending additional water south. Contract awards for the

[69] Also see: Letter to Commissioner "Update on Miami-Dade County Beach Corridor / Baylink Project', February 21, 2023

CEPP have already occurred. But the U.S. Army Corps of Engineers (USACE) has an ambitious schedule to award additional construction contracts for the project in coming years[70].

TEXAS

Overview

House Bill 1 appropriates $321.3 billion in total spending for the state's budget during the 2024-25 biennium. Read a summary of the appropriations by articles, which includes:

- More than $31 billion for higher education;
- $8.8 billion for natural resources, including the environment, water, parks, etc.; and
- $46 billion for business and economic development, including transportation, and housing and community affairs.

Transportation

Earlier this year, Gov. Greg Abbott announced a record 10-year, $100-billion statewide roadway construction plan (known as the United Transportation Program, UTP) with the Texas Department of Transportation (TxDOT) that will increase the number of transportation projects to improve congestion, maintain roadways, and increase safety across Texas. These projects will consist of 200,000+ lane miles and 55,000 bridges to address all roadway needs.

The UTP is a planning document that guides the development of transportation projects across the state. The UTP also identifies public transportation, maritime, aviation, and rail investments. Projects are selected by TxDOT, and local transportation leaders based on effectiveness in addressing criteria such as safety, pavement condition, capacity, and rural connectivity, with opportunities for public input at both the state and local levels.

Read more information on the UTP projects and the statewide long-range transportation plan, known as the *Texas Transportation Plan 2050* report.

Future transportation projects include the I-35 Capital Express Central, State Highway 99 (the Grand Parkway), Loop 9, North Houston Highway Improvement Project (NHHIP), I-10 Inner Katy Managed Lanes Project, and Amtrak's proposed Dallas-Houston High Speed Rail Service.

Transit

Several transit agencies in Texas have ambitious voter-approved capital programs, including Dallas Area Rapid Transit (DART), CapMetro – Austin Public Transit, and Metro Metropolitan Transit Authority of Harris County (Metro Houston).

[70] U.S. Army Corps of Engineers Jacksonville District (2022) "USACE awards large, foundational construction contract for CEPP EAA A-2 Reservoir", September 30, 2022

Future projects include DART's D2 Subway; CapMetro's Blue Line, Green Line and Orange Line rail projects; and, Metro Houston's Rapid University Corridor BRT.

For further data information and networking opportunities about transit and transportation projects in the State of Texas, Canadian companies are encouraged to contact municipal planning organizations throughout the state.

Education

The state budget would allocate $42.9 billion for Texas higher education, including allocations for the University of Texas, Austin Community College, and Texas State University.

The University of Texas (UT) has established the Capital Improvement Program (CIP) Dashboard. The report includes information on current CIP projects, CIP funding sources, project schedules, projects in the definition phase (pre-CIP), all active projects (both pre-CIP and CIP projects), and the data sources used.

Major projects within the UT system include the $1.25-billion Clinical Services Building and the $332-million Engineering Discovery Building.

In Texas, school districts can issue new bonding for the following:

- Constructing new school facilities, site acquisition, improving current facilities, and all equipment costs related to construction
- Acquisition of property or the refinancing of current property regardless of whether payment obligations under the contract are due in the current year or a future year
- Purchase of sites for school buildings
- Purchase of new school buses

Under Texas laws, normal election dates for bond elections are the second Saturday in May and the first Tuesday in November.[71] These require a simple majority (50%t plus one) to approve a school bond measure[72].

For instance, this November, a proposed $840.6 million bond package will go to Katy Independent School District voters. The largest in the district's history, the package will fund new schools, campus renovations, and upgrades in security, technology and athletic facilities.

Updates on future school district construction/bond issues can be found Texas Independent School District website.

Also see a listing of local debt bond election results, including those from school districts, cities, counties, and water districts.

[71] Texas Election Code - Texas Election Law (Referenced Statute 41.001)
[72] Texas Education Code - Texas School Bond Law (Referenced Statute 45.003)

Climate

Earlier this year, Texas legislators approved Senate Bill 28 (SB 28),which creates a new Texas Water Fund that provides financial assistance for developing new water supplies, fixing deteriorating water systems, and addressing leaking infrastructure. Legislators wrote SB 28 to work in concert with a series of other bills that both propose to amend the Texas Constitution and make a significant investment in water infrastructure.

The Texas Water Fund is a constitutionally created and dedicated fund. This means that voters must approve an amendment to the Texas Constitution, creating the Texas Water Fund during the constitutional amendment election on Nov. 7, 2023[73]. The legislature approved a supplemental appropriations bill that authorizes the deposit of $1 billion to the fund if voters approve the constitutional amendment this November. Voter approval of the fund would also establish a new financial strategy for addressing Texas' water infrastructure challenges.

The long-term price tag for addressing Texas's water infrastructure needs is significant. Over the next half-century, Texas will need to spend more than $150 billion on new water supplies, fixing aging drinking water and wastewater infrastructure, and developing flood control and mitigation projects, making this a significant investment opportunity for Canadian companies.

For questions or comments, contact EDC Global Business Development, United States infrastructure team (USinfra@edc.ca).

For media inquiries, please email media@edc.ca.

[73] Mazur, Jeremy, B. (2023) "What's next for Texas Water Infrastructure Policy," Texas 2036

ABOUT EXPORT DEVELOPMENT CANADA

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