

A Connecticut State Infrastructure Bank? Opportunities and Lessons

A Policy Brief by:

Iman Jaroudi
Jacob Carlson
Allison Chen
Varun Varanasi
Daniel Kim
Mary Chen

The Policy Lab
Yale University

EXECUTIVE SUMMARY

- This brief examines the desirability of creating a state infrastructure bank (SIB) in Connecticut, which has been the subject of recent legislation and debate.¹
- First, the brief summarizes major findings from existing research on SIBs.
- Second, the brief describes how several states offer lessons for Connecticut on the potential utility and pitfalls of SIBs.
- Overall, this research suggests that a state infrastructure bank can help Connecticut. For it to be effective, it needs to be properly funded, should conceive of infrastructure broadly (including climate and energy), and should be attuned to potential social impacts.

CONTENTS

- **Part I: The Potential of SIBs**
 - Introduction
 - Arguments for SIBs
 - SIB Best Practices
 - Increasing Investment?
 - Social Impacts
- **Part II: Lessons from Comparable States**
 - Comparable States
 - Bridges, Public Roads, and Railroads over Time
- **Conclusion**

PART I: THE POTENTIAL OF SIBs

Introduction

State infrastructure banks (SIBs), a 2012 Brookings-Rockefeller policy brief explains,² arose in the United States in response to a growing need to “streamline [infrastructure] project delivery.”³ Several statutes passed by Congress in recent decades led to new opportunities for the establishment of SIBs. With the passage of the 1995 National Highway System Designation Act, states were permitted “to use a portion of their federal transportation allocation as ‘seed money’ for [the] initial capitalization” of SIBs.⁴ This legislation was soon succeeded by the 1998 Transportation Equity Act for the 21st Century (also known as “TEA-21”), which provided further funding mechanisms for SIBs in California, Florida, Missouri, and Rhode Island.⁵ Florida and Missouri, however, were the only two states to follow through on this policy and utilize their new funding sources. A similar development occurred in 2005, following the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); this Act made all U.S. states and territories eligible for “cooperative agreements” and SIB establishment, but as of 2012 “none [had] done so”.⁶

At the time of publication, the Rockefeller-Brookings brief noted that 33 federally capitalized SIBs existed in the U.S., although 10 were considered “inactive”.⁷ To our knowledge, this remains the most recent complete survey of SIB existence and capitalization status across all states and territories, and points to a need for updated research on these banks and the nature of their activities (if any). It is also important to distinguish between state revolving funds (SRFs) and SIBs, stating that “SIBs are unique because they [are] initially capitalized through federal apportionment and cooperative agreements with the Transportation department”.⁸

Arguments for SIBs

While the Brookings-Rockefeller brief provides a thorough introduction to SIBs and their potential strengths, a 2019 article from the Center on Budget Policy and Priorities offers a more explicit case for the uniquely positive impacts of SIBs on state infrastructure development.⁹ The author argues that private-sector investment in public projects, via institutions such as SIBs, are both timely and necessary for the promotion of efficient short- and long-term infrastructure projects. **SIBs, the article finds, can bring about more immediate change: private-public collaboration in infrastructure can “improve state economies” and lead to higher-quality infrastructure that will have generational impacts.**¹⁰ This is important given the extent to which current investment in infrastructure is “failing” and in dire need of improvement. Moreover, the since state and local governments “own [the] vast majority of public capital,” institutions such as SIBs can integrate private investment and other funding sources, such as federal capitalization, to provide additional funding sources to critical projects.¹¹ In short, this article provides a compelling argument for action and policy change, suggesting that SIB proposals could effectively capitalize upon a crucial economic moment to promote innovation in state-level infrastructure policy.

There are similarly compelling economic and fiscal arguments to be made in favor of SIB development, such as those presented in a 1992 paper published by the National Bureau of Economic Research.¹² The framework and approach to infrastructure policy analysis utilized in this paper remains relevant. The primary aim of this paper is to assess the “impact of public

infrastructure investment on the productive performance of firms”, and in this vein the authors develop a “production theory model of firms’ production and input decisions”.¹³ This model is then applied to state-level data on firms’ costs and (growth of) productivity, and the authors conclude that “infrastructure investment does provide a significant direct benefit” to firms and their performance.¹⁴

A 1999 paper entitled “State Infrastructure and the Geography of Environment” also addresses state-level economic impacts of infrastructure investment, particularly in the realm of employment.¹⁵ **The paper examines “the effect of state infrastructure investments on the distribution of employment within states,” and concludes that such investments promote more even distributions of economic growth and employment opportunities across states.**¹⁶ However, the author cautions that this (re)distribution “may diminish agglomeration benefits offered by cities” and thus “has the potential to reduce state growth.”¹⁷ This is a critical perspective to include in the broader study of SIBs, as their capacity for both positive and negative impacts on state economies should be thoroughly considered.

SIB Best Practices

In 2017, the U.S. Department of Transportation released a brief titled “State Infrastructure Bank Best Practices”; this document resulted from a SIB “peer exchange”, and discusses the “lessons learned” from past and ongoing SIB implementations.¹⁸ The guidelines discussed in the report are grouped within five areas: targeted marketing, application process, loan features, prudent leveraging, and program management. Within each area, state-specific examples are given — for instance, Florida and Ohio are listed as states that have eliminated application fees within their SIBs, and Texas is noted as an example of successful marketing practices.¹⁹

Overall, the brief emphasizes that **barriers to participation in SIB programs should be as low as possible (hence the discussion of low or non-existent application fees)**. Loan practices are discussed within this framework as well. Missouri is provided as an example of a state which does not impose prepayment penalties for early loan repayment; Florida, Ohio, and Texas are also mentioned again for their loan maturity and interest rate practices.²⁰ In all, this short paper can be an effective tool in assessing an existing SIB or a proposal, and gauging relative strengths and weaknesses.

A 2007 article from Public Budgeting & Finance similarly addresses the key “merits” of SIBs, and concludes by suggesting potential improvements to contemporary SIB mechanisms. The author assesses SIB funding mechanisms and arrives at largely positive conclusions — for instance, the paper claims that “the leveraging impact [of SIBs] seems to be much larger than the impact from [. . .] traditional federal grant[s]”.²¹ However, the analysis indicates that there remains immense room for SIB improvement, and the recommendations made by this paper mirror the ‘best practices’ underscored by the DOT brief. Loan rate and maturity are emphasized as areas for improvement in this paper, and the author also states that loan structures should be prioritized as an area for future study.²² The paper also discusses leverage ratios, and the role of federal assistance funds in SIB leverage — this is an important contribution to the literature on SIB efficacy and best practices, as it addresses federal investment mechanisms in far greater detail than sources such as the DOT brief.

A comparative, international perspective is also important to this overall discussion of infrastructure bank best practices. A 2017 paper by the International Institute for Sustainable Development provides such a perspective, taking the European Investment Bank as an example

and case study for developing a set of best practices. While far different from an American state-level bank (the EIB is owned and operated by the European Union), there are still common threads between the practices and policies deemed most effective for the EIB and domestic SIBs. Once again, loan structures are important: the EIB utilizes “framework loans” to finance “several — sometimes hundreds — of projects within a single investment program.”²³ There are similarly relatively low barriers to participation, a practice which was also noted in the DOT brief; moreover, the EIB practices “blending” to bring together funds from various sources and “de-risk infrastructure projects”, a practice which did not appear explicitly in discussions of American banks.²⁴ Other similar institutions (such as the U.K. Green Bank, the Nordic Investment Bank, etc.) are also assessed by this paper, but the authors argue and claim that the EIB is “the best example of the products and services that an infrastructure bank could offer to stimulate [effective . . .] investments.”²⁵

Increasing Investment?

When assessing the overall benefits and efficacy of SIBs, it is critical to examine whether they meet their supposed goal of increasing state and local infrastructure investment. In a 2016 *Public Budgeting & Finance Paper*, this is analyzed using panel data from seven states, ranging from 1998 to 2010. **The study concluded that “one dollar of three-year lagged SIB loan disbursements” ultimately “increase state and local highway capital expenditure [. . .] by nearly three dollars.”**²⁶

Further papers corroborate this finding and provide greater insight on the fiscal impacts of SIBs and their role in promoting greater investment. A 2010 study developed a predictive model for non-SIB alternative interest rates to compare the impact of SIBs on interest: the authors concluded that “SIB loan interest rates are lower than those of comparable municipal bonds.”²⁷

Understanding SIB alternatives is thus useful here, namely other government financing options and mechanisms for federal infrastructure support. According to a 2018 report by the Congressional Budget Office, 60% of infrastructure investment (including water infrastructure) at the state and local level is “financed using tools that impose costs on the federal government,” including but not limited to tax-exempt bonds, tax credit bonds, and direct federal credit programs.²⁸ Tax-exempt bonds were the most-used of these financing mechanisms, as of 2017, by a rather significant margin; interestingly, however, state banks (including SIBs and other state revolving funds) were the second most-used mechanism, with an average amount of \$9 billion in new financing provided annually between 2007 and 2016.²⁹ The report discusses various advantages of these respective mechanisms, noting that while tax-exempt bonds “have the fewest restrictions on their use,” smaller projects could see more benefits from using other funding sources.³⁰ It goes on to note that SIBs have typically been less active than state revolving funds, particularly those pertaining to water infrastructure; SIBs, on the other hand, have primarily supported highway projects and unlike SRFs “do not receive designated federal grants each year.”³¹ **Taken together, these sources indicate that SIBs are an area in which greater federal investment could take place and produce tangible positive results for smaller state- and local-level infrastructure projects.**

Social Impacts

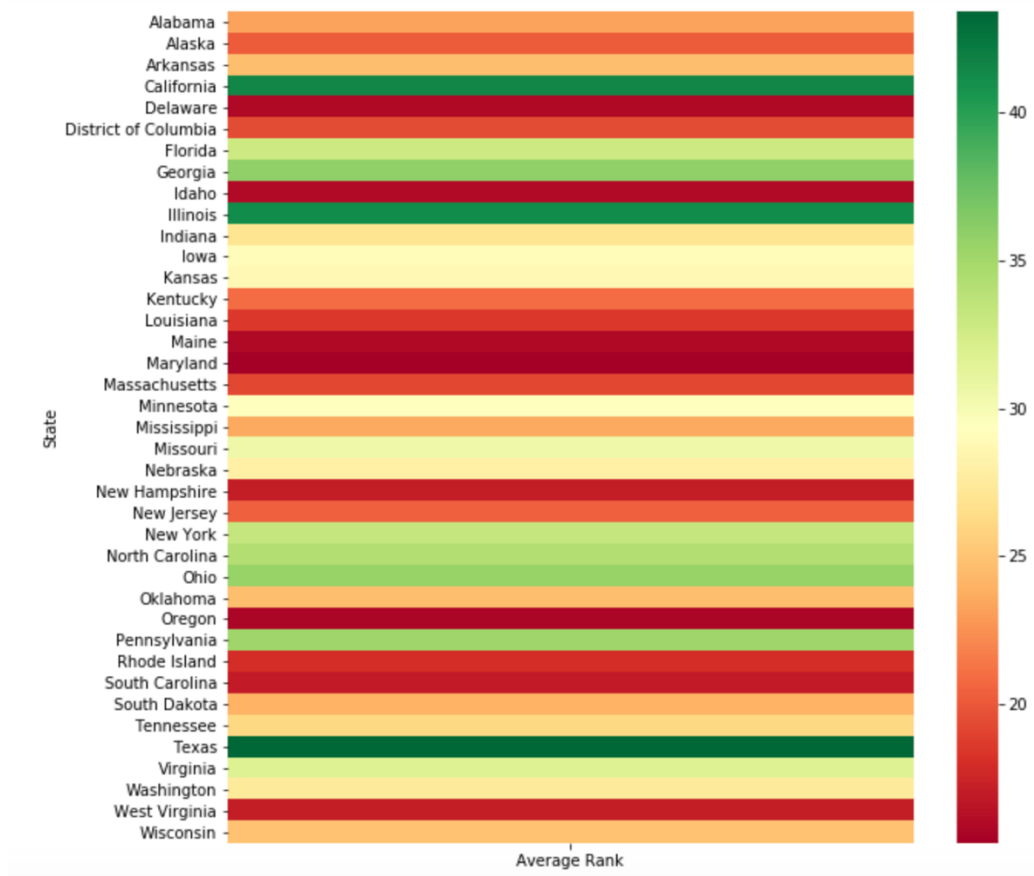
While much of the literature discussed thus far addresses the positive impacts of SIBs on infrastructure, it is important to also consider critiques of infrastructure banks and their broader sociopolitical implications. Although outside the American context, a 2019 paper discusses the Canada Infrastructure Bank “in relation to the political economy of settler colonialism in Canada.” The author argues that the Canadian bank undermines Indigenous sovereignty by furthering the state’s investment in, and ownership over, stolen land.³² In essence, private investments in infrastructure development can be “understood [. . . as] state struggles to exercise territorial jurisdiction over Indigenous lands and resources” and thus the author posits infrastructure banks as extensions of settler-colonial power.³³ This analysis is highly relevant to the United States as well — this country similarly has a history of settler-colonialism and what the paper refers to as “colonial capitalism,” and discussions of SIB implementation in the U.S. must be accompanied by conversations on land use and Indigenous justice. A 2018 paper, also addressing the Canadian bank, undertakes a similar topic and describes pathways for “Indigenous-driven” infrastructure investment and project development.³⁴ Particularly, the paper argues that innovations in infrastructure financing must move being “from state-initiated” to Indigenous-led in the interests of promoting justice and Indigenous sovereignty, and recognizing Indigenous ownership over Canadian land.³⁵ Its primary example is that of a Canadian highway “across the Arctic frontier,” leading to the Arctic ocean — Indigenous community leaders drove the development of this infrastructure project, and lobbied successfully to gain funding and support for the highway’s construction.³⁶ Once again, despite being grounded in a non-American example, the arguments made in this paper are critical to U.S. infrastructure banking; the paper details the process undertaken by Inuvialuit leaders in Canada to lead and influence infrastructure development within their territory, and Indigenous people and American policymakers alike could take this as an important case study.

In all, it is important to have means of assessing SIBs beyond their fiscal and/or economic impacts. For example, a 2015 article in *Procedia Engineering* proposes a “Social Impact Project Finance (SIPF) [framework] for financing infrastructure projects”: as discussed by the authors, this approach would require public investors to “pay performance-based yield” which they claim would in turn incentivize private-sector investors to “better construct and manage infrastructure assets.”³⁷ Importantly, this framework includes criteria related to social impacts (with an emphasis on sustainability) and thus motivates investment which takes such impacts into account.³⁸ While only a proposal, this article provides insight into ways of thinking about infrastructure investments that are cognizant of social, environmental, and political factors in addition to economic ones.

PART II: LESSONS FROM COMPARABLE STATES

The second part of this brief examines several states and state SIBs in more detail. We conducted a simple statistical comparison of Connecticut to its counterparts on the basis of population, GDP, unemployment, and infrastructure data (bridges, public roads, railroads, and waterways) to determine which states would be apt choices for in-depth case studies. The data analysis involved ranking states in terms of their deviation from Connecticut in each variable (population, GDP, unemployment, infrastructure data, etc.). For example, the state with the closest population to CT was given a ranking of 1 and the state with the largest deviation from CT was given a ranking of 51 (DC included). Once these rankings were assigned to each state on the basis of

each variable, the rankings were averaged over the 7 categories to find which states had the lowest average ranking.



Note: States scoring more similarly to Connecticut are darker red.

From this analysis, we found that the 10 states most similar to CT were:

1. Maryland
2. Oregon
3. Delaware
4. Maine
5. Idaho
6. South Carolina
7. New Hampshire
8. West Virginia
9. Rhode Island
10. Massachusetts

Of these states, only the following had/have active state infrastructure banks:

1. Oregon
2. Delaware

3. Maine
4. South Carolina
5. Rhode Island

Comparable States

Here, several state-specific cases are examined to better understand the feasibility of establishing a Connecticut SIB – South Carolina, New Jersey, Oregon, Delaware, and Maine. While New Jersey is not in the top 10 states most similar to Connecticut on our index, we include it here because of its similarity of size, transportation needs in the New York region, and relevance as a northeastern state. South Carolina and New Jersey are also states have been used as case studies in other research on SIBs.

South Carolina. South Carolina’s SIB is the largest state infrastructure project in the U.S., encompassing three-fifths of all U.S. SIB loans. The bank mostly assists with projects costing over \$100 million but has paid for smaller projects. The bank has faced criticism for being driven by politics rather than state road needs. According to a recent report, 16 percent of the state’s roads are in poor condition,³⁹ ranking 29th in the percentage of poor roads. In contrast, other states like Georgia only have four percent of roads rated in poor condition and 13 percent of North Carolina roads were rated poorly. Connecticut has the highest percentage of poor roads -- 57 percent. The state has funded 5.3 billion dollars in highway, road, and bridge projects since 1997. **Issuing bonds for major road construction rather than pay-as-you-go funding has proved more efficient for South Carolina’s SRB. Furthermore, the state credits success of the SIB to partnerships with counties, municipalities, and the SCDOT.**

More basic information about the bank can be learned from audit documents. A 2016 legislative audit of the South Carolina Transportation Infrastructure Bank reviews the operations and outcomes of the bank, with the primary purpose of confirming the bank’s compliance with state laws. The South Carolina bank was established in 1997, and as of 2016 had “awarded approximately \$3.8 billion in grants and \$1.0 billion in loans for transportation projects initiated primarily by local governments and the South Carolina Department of Transportation.”⁴⁰ The highest concentration of funding has been in Horry and Charleston counties, and the audit indicates that rather than having a designated oversight agency the South Carolina bank is an “independent” institution.⁴¹

There were, however, several issues identified with the bank: its application processes are described as being unclear and ill-defined, with no clear timeline for funding awards nor guidelines as to “what constitutes a project.”⁴² While these point to areas of necessary improvement for the South Carolina bank (and indeed indicate potential problems which future SIBs should address), there are also positive features of the bank and its funding process: approved projects do not need to be proposed by the SCDOT and there is no “minimum rating” requirement for funding.⁴³ This is consistent with earlier literature which emphasized the importance of low barriers to entry for prospective investors and project proposals. Another audit of the South Carolina bank was completed as recently as June 2020, resulting in a report authored by the Office of the State Auditor and the bank’s board of directors. This audit focused primarily on the bank’s financial statements and its overall “financial performance.”⁴⁴ The report states that for the fiscal year 2020, “revenues exceeded expenses by \$91 million” — the authors posit that this surplus is largely “due to outlays for approved projects decreasing.”⁴⁵

Additionally, like the 2016 audit, the report confirms bank compliance with state law and finance-related requirements. Interestingly, the report also enumerates the bank's revenue sources: in 2020, 36% and 19% came from truck and motor vehicle registration fees, respectively, while 13% was contributed by SCDOT and investment earnings accounted for 25%.⁴⁶ A similar breakdown is provided for bank expenses, and the report's findings are somewhat concerning: only 33% of the bank's expenses were related to transportation projects, with the remaining 67% account for "interest on debt and other debt related costs."⁴⁷

New Jersey. New Jersey has a separate state infrastructure bank and environmental infrastructure trust. It now also finances aviation and marine infrastructure projects and emergency relief disaster loans. The SIB is an independent state financing authority that issues revenue bonds to finance low interest loans for environmental and transportation infrastructure improvements. The Water Bank Program saved tax- and rate-payers over 2.7 billion dollars through lower interest charges, principal forgiveness loans, and bond deal refunds. **The bank program has issued 1375 long-term loans to fund clean water, drinking water, land acquisitions, remediation, and redevelopment projects. Completed projects include the reparation of a major structurally-deficient bridge.**

A 2018 brief published by Stockton University argues in favor of the New Jersey bank and discusses its overall economic impact and implementation details.⁴⁸ The brief claims that every \$10 million in new lending by the New Jersey bank "would yield an additional \$16 million, [. . .] raise state earnings by \$3.8 million to \$5.2 million, [. . .] and increase state value-added by roughly \$9 million [to] \$12 million."⁴⁹

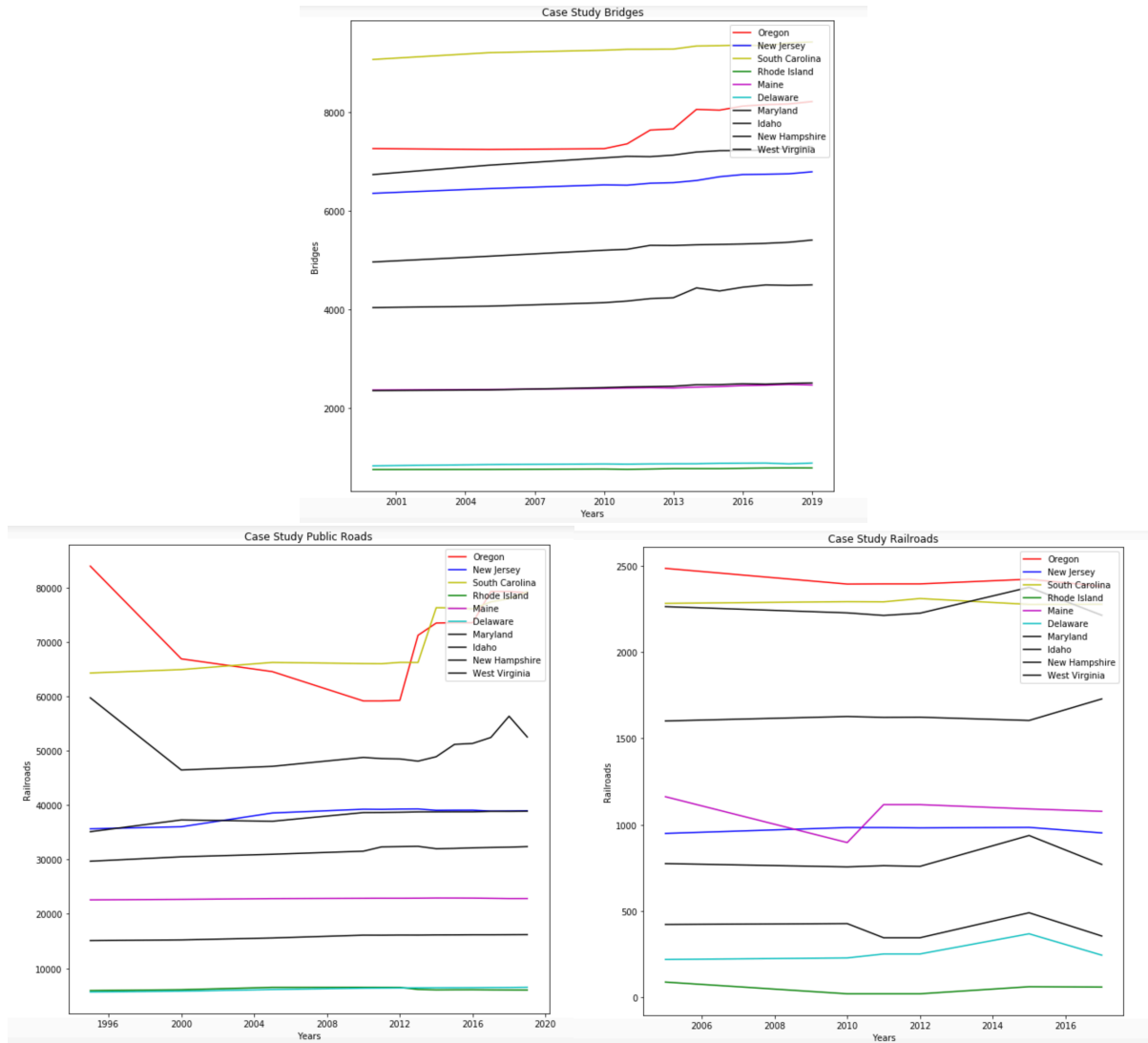
Oregon. Oregon's state infrastructure bank, the Oregon Transportation Infrastructure Bank (OTIB), focuses on public transportation projects (highways, roads, etc.) more than other types of infrastructure. The SIB is capitalized with federal funds, and repayments from state and local sources convert to state funds without federal requirements attached. The Oregon SIB attracts non-traditional sources of capital from private project sponsors, public-private partnerships, right-of-way (ROW) donations, user fees, and development impact fees. The OTIB also expands applicant choice for financing and incentivizes applicants to identify new revenue streams linked to potential project benefits. OTIB's unique credit-based financing offers low interest rates and flexible terms.

Delaware. Delaware's SIB, also known as the Transportation Infrastructure Investment Fund had the initial goal of creating more jobs. With a 3.9-billion-dollar projected investment through 2025, Delaware's SIB's first round had eight suggested projects that totaled to 8.8 million dollars in grant funds and 1300 jobs. Its second round had six suggested projects that totaled to 7.7 million dollars in grant funds and nearly 7000 jobs.

Maine. Maine's state infrastructure bank was created as a revolving fund consisting of federal highway and state highway funds. The bank serves the purpose of addressing transportation infrastructure projects with all financial resources being allocated by the Legislature. Moreover, Maine is aiming for a Green Infrastructure Bank to merge both private and public capital. This is with the intention of addressing the upfront costs of clean energy improvements which could total to as much as 60 billion dollars. The Green Infrastructure works to fund a clean-energy

transition across the state, particularly important because Maine consists of New England's most energy-intensive economy.

Bridges, Public Roads, and Railroads over Time



Using data collected by the United States Department of Transportation and Bureau of Transportation Statistics, we visualized the number of bridges, railroads, and public roads over a 20-year period in the 5 case study states. For a comparison, we also include 5 states without state infrastructure banks. **Of particular note is the graph for the number of bridges. Oregon, New Jersey, and South Carolina appear to have all experienced an increase in the number of bridges in the state over the past two decades, coinciding with their having state infrastructure banks.**

CONCLUSION

As alluded to by the 2019 Center on Budget Policy and Priorities article, there is increasing pressure to address national infrastructure problems, and to do so efficiently and innovatively. A similarly recent article by the Council on Foreign Relations discusses the present infrastructure crisis faced by the U.S., with particular emphasis on the areas in which the U.S. is “lagging behind” its foreign economic competitors.⁵⁰ The article goes on to discuss the importance of “investing in both new infrastructure and current maintenance”, and the positive impact such investment(s) would have on the American economy.⁵¹ However, the current quality of U.S. infrastructure does not indicate that such investments are being made. As the CFR report states, American infrastructure received a rating of “D+” from the American Society of Civil Engineers; the group also commented on the growing “infrastructure gap” in the U.S., wherein failures to invest are very tangibly resulting in GDP losses.⁵²

A national infrastructure bank may be desirable, but in the meantime, there is much that the State of Connecticut can do to improve its own infrastructure through the creation of an SIB. As this brief has argued, an SIB can help states achieve improvements in infrastructure. They can facilitate public-private partnerships. Moreover, with proper funding, SIBs can address infrastructure broadly – not only roads, bridges, and railroads, but also energy infrastructure. Finally, in establishing and operating any SIB, the impacts of new projects on different groups in society should be properly considered. **Overall, a state infrastructure bank would offer a unique opportunity to improve the quality of life for residents of Connecticut.**

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