Written Testimony of

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"Investing in America: Reauthorization of the Economic Development Administration"

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Good afternoon. Thank you Chair Titus, Ranking Member Webster, and Members of the Subcommittee on Economic Development, Public Buildings, and Emergency Management for inviting me to testify today.

My name is Dan Carol, and I am a Director of the Milken Institute Center for Financial Markets.[1] Formerly I served as the Senior Advisor for Infrastructure and Energy for Governor Jerry Brown of California and led efforts to create the West Coast Infrastructure Exchange, a 2015 winner of the Harvard Ash Center award for government innovation. I also serve as adjunct faculty in the Master's Program in Urban and Regional Planning at Georgetown University. I am testifying today on my own behalf.

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Thank you for the opportunity to offer input and recommendations today on the future of the Economic Development Administration (EDA) and the reauthorization of the Public Works and Economic Development Act (PWEDA), especially as it pertains to infrastructure. My message today will be pretty simple. While maintaining important core programs supporting regional economic innovation and economic development, EDA should return to its roots as a public works agency with an updated mission for the future focused on resilient infrastructure. Over its long history, EDA has served as an effective incubator for new federal initiatives in rural development, economic adjustment assistance due to globalization, and disaster relief, among others.

[1] The Milken Institute is a nonprofit, nonpartisan think tank that promotes evidence-based research that serves as a platform for policymakers, industry practitioners, and community members to come together in catalyzing practical solutions to challenges we face both here in the U.S. and globally. The Center for Financial Markets conducts research and constructs programs designed to facilitate the smooth and efficient operation of financial markets—to help ensure that they are fair and available to those who need them when they need them. More information on the Milken Institute's work on Resilient Infrastructure can be found here: https://milkeninstitute.org/resilient-infrastructure

When combined with 21st Century updates such as predevelopment investment[2], EDA's regional structure and existing authorities are perfectly positioned to accelerate the innovations we need to address the nation's most pressing challenge: *funding and financing the infrastructure that communities need today in order to compete in the economy of tomorrow.*

My testimony today will be divided into three parts.

I. First, I will briefly describe the infrastructure moment we are in and identify some key research-based strategies which I believe can "unstick" the infrastructure debate.
II. Second, I will offer ideas about what EDA can do now, without new Congressional authority, to help to accelerate the deployment of resilient infrastructure projects, job creation, equitable growth, and regional competitiveness.
III. Third, I will outline recommendations for the Committee to consider as it looks towards reauthorizing the agency and modernizing the mission of the EDA, including the creation of a Federal Infrastructure Predevelopment Fund and additional outcome-focused recommendations for the Committee to consider to strengthen the performance of U.S. infrastructure systems.

I. THE INFRASTRUCTURE MOMENT

America's multi-trillion dollar infrastructure systems are in the midst of profound transformation. Disruptions from big data, extreme weather events, and driverless cars were already transforming how traditional infrastructure systems were funded, financed, and designed before the COVID-19 pandemic.

What's not new is that most of the funding shortfall identified by the American Society of Civil Engineers' annual report card is due to deferred maintenance that has built up over decades. This downward trend arises from several factors, from political preferences for above-ground ribbon cuttings over underground pipe replacement to the lack of technical capacity in communities experiencing fiscal distress.[3] The biggest issue, however, is poor procurement and asset management practices. Governments often receive negative media coverage if they don't choose the low-cost capital bid and generally don't get penalized for failing to maintain valuable assets meant to last a lifetime.

[2] Predevelopment pays for tasks that need to be completed before project construction can begin, such as economic feasibility studies, site acquisition costs, architectural and engineering work, and permitting. https://www.federalregister.gov/documents/2015/01/22/2015-01256/expanding-federal-support-for-predevelopment-activities-for-nonfederal-domestic-infrastructure

[3] It is worth recalling that U.S. state and local sector hadn't fully recovered from the 2008 crash even before COVID-19 hit. States missed out on $283 billion in otherwise expected revenue from 2008-2018 due to the slow recovery, increasing the rate of deferred maintenance in many areas. https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/06/lost-decade-casts-a-post-recession-shadow-on-state-finances

Each year, we see the long-term effects of decades of deferred maintenance and local fiscal challenges revealing themselves in dramatic new ways, from Flint's water crisis, to dam and levee failures in the Carolinas and Mississippi regions, to wildfire-induced utility bankruptcy in the West and the recent grid failure in Texas.

The size of this infrastructure performance problem, for both public and private infrastructure, is enormous. According to an Oxford Economics 2017 infrastructure study, U.S. infrastructure needs by 2050 are conservatively estimated to be $17.3 trillion dollars.[4] That means that without substantial investment now in innovation and technical assistance capacity to improve the performance of America's public, public-private, and private infrastructure systems, we stand to lose $6.9 trillion in available savings that could be realized through more effective infrastructure productivity and procurement reforms. Business as usual, when it comes to infrastructure, is going to be very, very costly. These estimates don't even include the multi-trillion potential costs of infrastructure outages and economic losses for communities vulnerable to the effects of extreme weather and climate change.

Happily, we don't have to reinvent the wheel to begin to fix these persistent performance problems with future rounds of federal infrastructure investments. According to study[5] after study,[6] there are successful models for building high-performance infrastructure systems that can be adapted to the U.S. context. We simply need to deploy these techniques more effectively.

Shifting America's massive infrastructure systems and practices will not be easy. We will need a series of strategic investments and interventions to deliver better outcomes over the next 3 to 10 years, using both existing infrastructure authorities and programs, and new investments designed to catalyze bottom-up success. I recommend to the Committee that it consider a series of strategic interventions beginning with these three acceleration pathways:

- Invest in base levels of technical capacity and support to allow state and local governments and community organizations, which fund 2/3 of all public infrastructure, to institute life-cycle asset management systems;

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[4] Projected based on U.S. funding gap data found in Oxford Global Outlook 2017 and McKinsey estimates of infrastructure performance potential using life-cycle asset management and other best practices. Note ASCE's annual report cards only project out needs for five years, hence the difference. "Infrastructure Productivity: How to Save $1 Trillion a Year," McKinsey Global Institute and https://www.mckinsey.com/business-functions/operations/our-insights/bridging-infrastructure-gaps-has-the-world-made-progress

[5] Richard Dobbs, Herbert Pohl, Diaan-Yi Lin, Jan Mischke, Nicklas Garemo, Jimmy Hexter, Stefan Matzinger, Robert Palter, and Rushad Nanavatty, "Infrastructure Productivity: How to Save $1 Trillion a Year," McKinsey Global Institute, January 2013.

[6] Georgetown University, Beeck Center, Performance-Based Infrastructure: Making the Shift, A Leadership and Economic Competitiveness Opportunity for Maine and the Northeast, 2015, https://repository.library.georgetown.edu/handle/10822/1051507. Also see Building California's Future, 2016, https://www.treasurer.ca.gov/publications/biennial/2016.pdf

- Use regional approaches to break down jurisdictional implementation silos and align investments based on landscape-level infrastructure outcomes and other performance objectives, including resilience and equity;
- Engage cross-sectoral leaders and investors to create innovative infrastructure delivery systems and policy incentives, recognizing that many forms of infrastructure are privately financed or funded through public-private partnerships.[7]

I will now address these pathways in the context of EDA's role in infrastructure and what it can do now and in the next three years.

II. WHAT EDA SHOULD DO NOW

As I outlined in a recent piece in Barron's,[8] the time is now for EDA to focus on resilient infrastructure deployment using eligible funding it has received under the American Rescue Plan Act (ARPA). With a focused strategy to meet frontline community demand, EDA could use its ARPA allocation to accelerate and pilot long-overdue efforts to move the U.S. infrastructure system from 19th-century creakiness to 21st-century performance. To do that, the agency should consider four strategies to ensure that it effectively spends out its available funding by September 30, 2022.

Support Only a Limited "Menu" of Community Resilience Projects. EDA programs can be used for a wide range of infrastructure projects, which means that scores of communities will bring hundreds of good and not-so-good project ideas forward for grant funding. Given the short window for EDA's Rescue Plan funding, I recommend serving up a focused menu of ready-to-go and replicable projects that are in high demand. In an era of grid failures, water failures, repeated floods, derechos, and droughts, thousands of communities are looking to build a common set of projects: from better broadband access[9] to shored-up levees to data-smart, urban water systems. For example, there are 130,000 schools, hospitals, and community colleges that want to copy what the Blue Rancheria Tribe built in Northern California: a community emergency center with micro-grids and wi-fi, so there was a place to go after the 2018 wildfires.[10] Each of the 6 EDA regional centers could offer a different menu of replicable resilience projects matched to differing regional needs and known demand.

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[7] For example, critical infrastructure sectors such as energy and telecommunications are largely privately-funded or structured as public-private partnerships. See American Council on Renewable Energy, 2020 https://acore.org/new-acore-analysis-reflects-on-u-s-renewable-energy-and-energy-storage-finance-amid-covid-19/#:~:text=ACORE%20launched%20the%20%241T,to%20help%20realize%20this%20goal.
Also see US Telecom Industry Metrics & Trends 2020,
https://www.ustelecom.org/wp-content/uploads/2020/02/USTelecom-State-of-Industry-2020.pdf

[8] "The $3 Billion That Can Kick-Start U.S. Infrastructure Spending"
https://www.barrons.com/articles/the-3-billion-that-can-kickstart-u-s-infrastructure-spending-51617894284?tesla=y

[9] Arctaris Impact Funds, 2021. https://www.businesswire.com/news/home/20210217005595/en/Arctaris-Funds-Broadband-Fiber-in-Opportunity-Zones-to-Increase-Digital-Equity

[10] https://www.washingtonpost.com/climate-solutions/2020/01/01/amid-shut-off-woes-beacon-energy/?arc404=true

Fund Predevelopment Capacity, Not Planning. For distressed communities struggling to jumpstart local economies and create investment-ready projects, the critical funding gap is catalytic predevelopment capital. Predevelopment pays for tasks that need to be completed before project construction can begin, such as economic feasibility studies, site acquisition costs, architectural and engineering work, and permitting. Recent reports by the Council of Development Financing Agencies, International Council of Sustainable Infrastructure, and the Milken Institute have highlighted the importance of predevelopment capital for local projects that struggle to find support within existing federally-funded programs.[11] The predevelopment gap is especially acute for smaller and historically underserved communities that lack the fiscal condition to acquire specialized technical assistance.[12]

Using some of the EDA's allocated funding under the American Rescue Plan for predevelopment could supplement the existing predevelopment programs at EDA,[13] which are already over-subscribed. Not only are these funds a boon to communities, but they're also a smart venture investment, generating $16-20 in economic payoff[14] for every predevelopment dollar spent. No wonder a diverse set of groups[15] from the U.S. Chamber of Commerce and the National Association of Manufacturers to the Coalition for Green Capital and the International Economic Development Council, support expanding predevelopment investment in this Congress.

In sum, the EDA can pave the way to better 21st century infrastructure by delivering funding and technical assistance for a focused portfolio of replicable resilience projects.

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[11] For more on the Value of Predevelopment, see:
Milken Review, April 2020, https://www.milkenreview.org/articles/the-case-for-an-infrastructure-predevelopment-fund
US Treasury, "Recommendations of the Build America Investment Initiative Interagency Working Group", 2015 (https://www.treasury.gov/resource-center/economic-policy/Documents/Build%20America%20Recommendation%20Report%201-15-15%20FOR%20PUBLICATION.pdf)
Presidential Memorandum, January, 2015 (https://www.federalregister.gov/documents/2015/01/22/2015-01256/expanding-federal-support-for-predevelopment-activities-for-nonfederal-domestic-infrastructure)International Coalition of Sustainable Infrastructure: https://sustainability-coalition.org/
Council of Development Financing Agencies, Policy Priorities, 2021, page 17
https://www.cdfa.net/cdfa/cdfaweb.nsf/pages/CDFA-2021-Policy-Agenda.html/$file/CDFA-2021-Adminstration-Policy-Paper-Final.pdf

[12] A recent practical example of interest to this Subcommittee's jurisdiction which highlights the need for expanded predevelopment and technical assistance funding involves the excellent new integration efforts under the FEMA's Building Resilient Infrastructure and Communities (BRIC) program where many states are reporting that the $600,000 limit for capacity support to local governments is limiting the number of communities with the expertise and skill set to write and access project grants.

[13] For example: https://eda.gov/pdf/about/Local-TA-and-UC-Program-1-Pager.pdf

[14] https://www.epa.gov/brownfields/brownfields-program-environmental-and-economic-benefits

[15] https://milkeninstitute.org/sites/default/files/2021-01/LettetoCongresThValuoPredevelopmenInvestmentForStrengtheningandSustainingU.S.Infrastructure.pdf

Be Nimble and Adaptive. There are too many stories where government relief checks take too long to reach affected individuals, and historically underserved communities find it impossible to access grants. To meet the moment, incoming EDA leadership needs to look at new ways to accelerate on the ground results and scale. While the EDA has many technical assistance delivery mechanisms, the greatest scale at this time can be achieved by relying on the EDA's 50-state University Center network to ramp up expanded technical assistance to service the proposed resilient infrastructure project menu. In turn, EDA's university partners need to think and act anew about their role in 21st century infrastructure deployment, partnering with project finance experts and impact investors to create project acceleration centers to help build next-generation resiliency projects and train up community leaders and students with the skill sets needed for life-cycle innovation.

***Emphasize Life-Cycle Outcomes Such As Equity and Resilience*.** To meet the moment, EDA leadership should also allocate some of its ARPA funding to pilot performance-based infrastructure investment incentives. For larger projects, a portion of EDA infrastructure funding could be conditioned on requiring local project sponsors to do an infrastructure risk & resilience assessment (IRRA) to ensure that life-cycle project costs, maintenance needs, and other risks are considered, along with alternative financing and project management systems. The pause created by the IRRA, like the old environmental impact assessment under the National Environment Policy Act, would offer a clear moment in the procurement process for improvements.[16] Taking this step is also likely to attract private and impact capital.

III. WHAT CONGRESS SHOULD CONSIDER FOR "EDA NEXT": A NEW MISSION FOCUSED ON RESILIENT INFRASTRUCTURE

EDA, created by the Public Works and Economic Development Act of 1965, has long punched above its weight as one of the few federal agencies focused exclusively on economic development. I know this from personal experience. I have worked closely with EDA Administrators serving both the Obama and Trump Administrations, helping to advance bottom-up technical assistance and regional innovation competitions, including the Invest in Manufacturing Community Partnership[17] and efforts to expand community technical assistance to promote the innovative use of Opportunity Zone funding for resilient infrastructure projects.[18]

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[16] As noted, most U.S. infrastructure projects (be it a public university building or a transportation project) are promoted by a single public agency and only the capital costs of the project are initially funded by the governing legislative authority. Little regard is given to the life-cycle costs of the project over its 30-year or more life, which studies show is fueling the nation's extreme deferred maintenance gap. Even less consideration is given to managing life-cycle operational risks or performance outcomes that drive up project costs. Richard Dobbs, et al "Infrastructure Productivity: How to Save $1 Trillion a Year," McKinsey Global Institute, January 2013, http://www.mckinsey.com/industries/infrastructure/ourinsights/infrastructure-productivity.

[17] IMCP: https://www.eda.gov/archives/2016/imcp/overview/

[18] https://milkeninstitute.org/articles/opportunity-zone-workshop-series-opens-mississippi https://www.eda.gov/archives/2021/news/blogs/2019/10/01/success.htm

Until recent infusions of federal funding through the CARES Act (2020) and the American Rescue Plan (2021), the agency has had an annual budget hovering around $250-300 million for the last two decades. Over the last *five* decades, the agency's Congressionally-mandated mission has grown over time to cover economic adjustment assistance, manufacturing, regional innovation clusters, and disaster relief.[19] EDA currently has seven investment priorities: Equity, Recovery & Resilience, Workforce Development, Manufacturing, Technology-Based Economic Development, Environmentally-Sustainable Development, and Exports & Foreign Direct Assistance.[20] EDA retains a diffuse footprint across the United States for a small agency. Within its six designated federal regions, the agency also funds 377 Economic Development Districts, over 50 University Centers[21] and 11 Trade Adjustment Centers.[22]

Over its history, Congress has used the EDA several times as an accelerator mechanism to address pressing economic challenges.[23] Now the time has come, in my view, for another mission. *EDA should pave the way for shifting best practices for the deployment of resilient and equitable 21st century infrastructure.*

This would not be the first time EDA has taken on the infrastructure problem at scale. In fact, in 1976-1977, the agency was appropriated $6 billion in funding ($28 billion in today's dollars!) to accelerate counter-cyclical, state and local public works projects to help the country come out of recession.[24] The Local Public Works program awarded funds to state and local governments through a bottom-up process.

I argued above that in order to save as much as $7 trillion dollars by 2050, Congress should consider strategic investments now to accelerate the shift of the U.S. infrastructure system towards an outcomes-based system anchored by performance, resilience, and equity. EDA can lead the way by returning to its Public Works roots. The mission: scaling up resilient, community-scale infrastructure for a new era of extreme weather and addressing post-COVID equitable infrastructure needs like broadband, clean water, and more.

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[19] As noted in the CRS Report, Economic Development Administration: A Review of Elements of Its Statutory History: "The agency evolved from a cluster of programs targeted primarily to distressed communities to an agency that was also called upon to direct assistance to urban areas, and to address issues confronting communities experiencing sudden and abrupt economic dislocation caused by factory shutdowns, foreign competition, base closures and disasters." CRS R41241, June 3, 2011.

[20] Commerce Department release, April 14, 2021.
https://content.govdelivery.com/accounts/USEDA/bulletins/2ccd92e

[21] https://www.eda.gov/programs/university-centers/current-list/. Note: EDA's UC program includes four Historically Black Colleges and Universities (HBCUs)

[22] See http://www.taacenters.org/locations.html

[23] Phillip Singerman, Repurposed Federal Economic Development Programs: A Practitioner Perspective, Economic Development Quarterly, May 2008.

[24] Public Works Employment Act of 1976, P.L. 93-369. Recognizing local fiscal conditions, EDA program grants covered 100% of the costs of predevelopment and actual construction. CRS Report, Economic Development Administration: A Review of Elements of Its Statutory History" CRS R41241, June 3, 2011, pages 12-13.

This new mission for resilient communities and public works should have three objectives: meeting basic community infrastructure needs to drive equitable growth outcomes, incentivizing performance-based infrastructure investments for projects of regional significance, and incubating 21st century whole-of-government federal coordination from the bottom up across all infrastructure modes. Along with the reforms recommended above regarding focused project deployment menus and University Center investments, this new effort should be anchored by the creation of a Federal Predevelopment Fund to catalyze the next generation of shovel-worthy projects.

Create a Federal Infrastructure Predevelopment Fund at EDA. A Federal Infrastructure Predevelopment Fund, as originally proposed,[25] would support a three-year base investment in flexible predevelopment funding designed to jumpstart a pipeline of community-level resilience projects, offer competitive predevelopment funding for projects of regional and national significance and catalyze the needed, long-term shift to performance-based infrastructure funding by the federal government.

The fund would support local technical assistance grants and loans to rapidly develop community-led projects while acting as a catalyst for investment-ready resilience partnerships. As noted earlier, existing predevelopment programs offering this form of technical assistance are either over-subscribed for large resilient infrastructure projects or hard-to-access for smaller communities who need this support to advance projects from concept to completion. Eligible infrastructure investments would include water systems, energy, transportation, broadband, housing, and natural infrastructure projects alone or in combination with these other investments.

The fund would address local capacity and barriers that impede a pipeline of shovel-worthy projects and help communities reform broken public procurement systems that fail to create the incentives for long-term resilience and timely maintenance. This investment in life-cycle asset management[26] would also attract sidelined private capital into community infrastructure at greater scale because the political risks would be removed through predevelopment work.[27]

Stand Up Regional Resilience Centers. Congress could further leverage its investment in local capacity by linking the Predevelopment Fund to a nationwide network of regional acceleration centers, housed at EDA. These Regional Resilience Centers would accelerate capacity-building

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[25] https://www.milkenreview.org/articles/the-case-for-an-infrastructure-predevelopment-fund

[26] American Society of Civil Engineers, Changing The Infrastructure Equation: Using Asset Management to Optimize Investments https://www.asce.org/uploadedFiles/Issues_and_Advocacy/Infrastructure/Content_Pieces/changing-infrastructure-equation-report.pdf

[27] NRDC, Taking the High Road to More and Better Infrastructure, 2016 https://www.nrdc.org/sites/default/files/taking-high-road-more-and-better-infrastructure-ip.pdf
Also see: European Investment Bank, "European PPP Expertise Center," 2016, www.eib.org/epec/ (accessed May 2, 2016).

on the ground, transfer best practices and successful models among states and regions, and promote federal whole-of-government closer to where projects are developed.

Although it is no secret that Congress has been considering a "national infrastructure bank" for 15 years, an idea predicated on the prevalence of Hoover Dam-scale projects, studies show these projects are relatively limited.[28] EDA Regional Resilience Centers, however, could focus on innovations that America needs now, like broadband for remote work, energy-efficient hospitals, and modern water management systems. These Regional Centers could house project finance and technical assistance teams, acting as expert leads to help communities successfully build one of the replicable projects on the EDA resilience project short-list.

Whether it's a region where there is too much water, not enough water, or another location-specific resilience challenge, going regional would bring resources and performance accountability closer to the ground, as recommended in recent reports by the Kinder and Milken Institutes.[29] A regional delivery strategy for federal engagement would allow communities to act quickly to deliver on the most pressing projects in their region without being slowed down by federal programmatic requirements, funding silos that don't fit post-COVID community priorities, or local matching requirements that make it harder for smaller and underserved communities to access the technical assistance they need to innovate.

Link Funding To Performance Improvements. Access to predevelopment funding would hinge on a commitment to evaluating economic and equity outcomes as well as to long-term performance improvements in key economic resilience criteria, such as life-cycle asset management, budgeting, and other fiscal best practices. As noted earlier, based on past economic studies by EDA and EPA, each $1 spent on predevelopment will generate $16-20 in total economic outcomes and funding leverage.[30]

***Match Fund Size to Community Need*.** Because a diverse set of groups, from the American Society of Civil Engineers and the Local Initiatives Support Corporation to the Natural Resources Defense Council and the Center for Rural Innovation, are calling for expanded predevelopment

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[28] U.S. Treasury, 2016: 40 Proposed U.S. Transportation and Water Projects of National Significance https://www.treasury.gov/connect/blog/Documents/final-infrastructure-report.pdf

[29] Kinder Institute, 2021. A Bottom-Up Strategy for American Renewal. https://kinder.rice.edu/research/bottom-infrastructure-strategy-american-renewal
Milken Institute, 2021. Accelerating Infrastructure Investment Across the Country https://milkeninstitute.org/reports/infrastructure-investment.
US DOT Regional Infrastructure Accelerator Program, 2021 https://www.transportation.gov/buildamerica/financing/tifia/regional-infrastructure-accelerators-program
Harvard Ash Center, Government Innovations, https://www.innovations.harvard.edu/west-coast-infrastructure-exchange

[30] EPA: https://www.epa.gov/brownfields/brownfields-program-environmental-and-economic-benefits
EDA: https://www.eda.gov/performance/

investment,[31] the Milken Institute was asked recently: exactly how much predevelopment support is needed right now to jumpstart more projects?

Based on our analysis, the benefit of/the case for a $15-25 billion predevelopment fund to jumpstart community, state, and regional-scale innovation over the next three years is easily supported by the data.

We compiled estimates on the national need for flexible predevelopment funding based on two methods. One looked at historical and projected gaps between municipal bond spending on infrastructure and known gaps, using the more conservative estimates prepared by Oxford Research.[32] The other method was compiled working with project finance experts who are already funding and financing high-demand infrastructure project types, such as community broadband, community micro-grids, and other projects. Each method confirmed that on-the-ground predevelopment demand far exceeded $15 billion. Based on past studies by the EPA and the EDA, we would expect $16-20 in benefits to flow from each $1 spent on predevelopment, or $240-320 billion in total benefits accruing from a $15 billion fund.

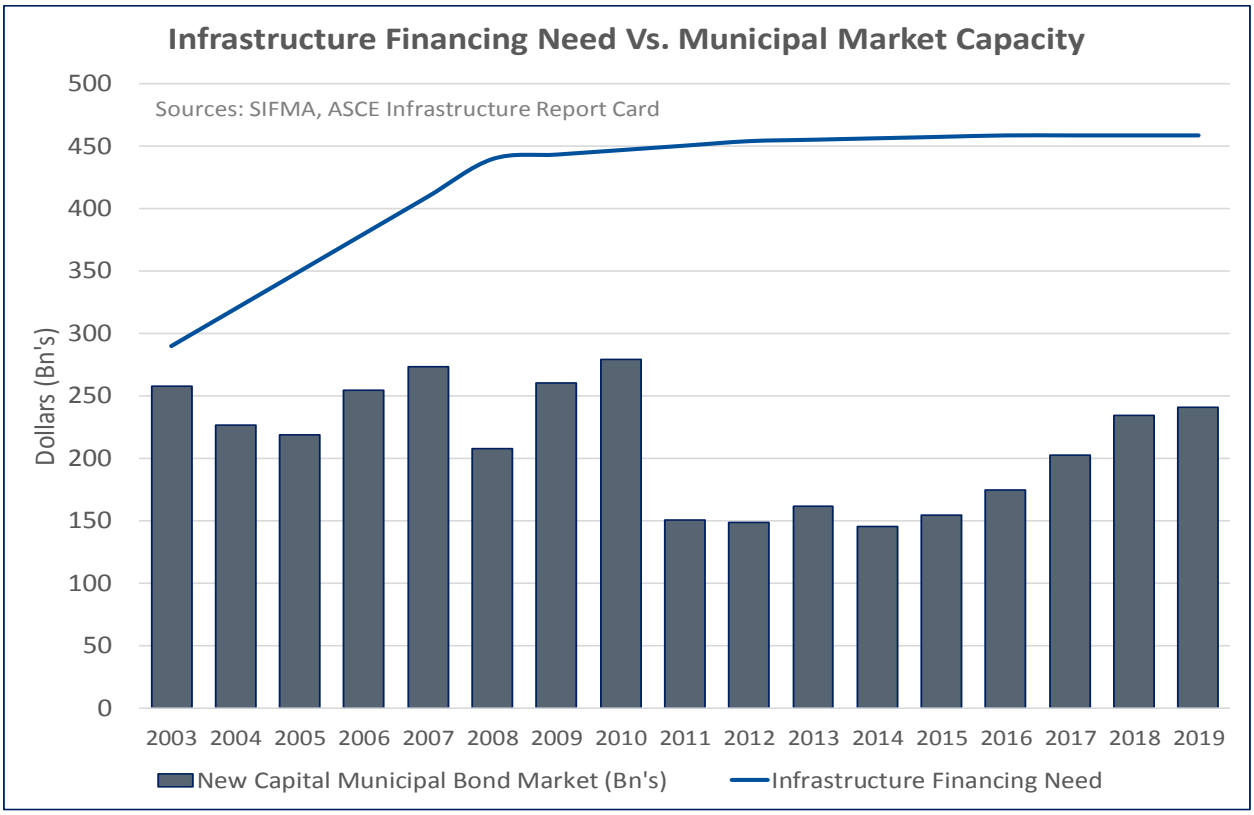
Estimate #1: Predevelopment Needs Based on Oxford Economics Gap Analysis

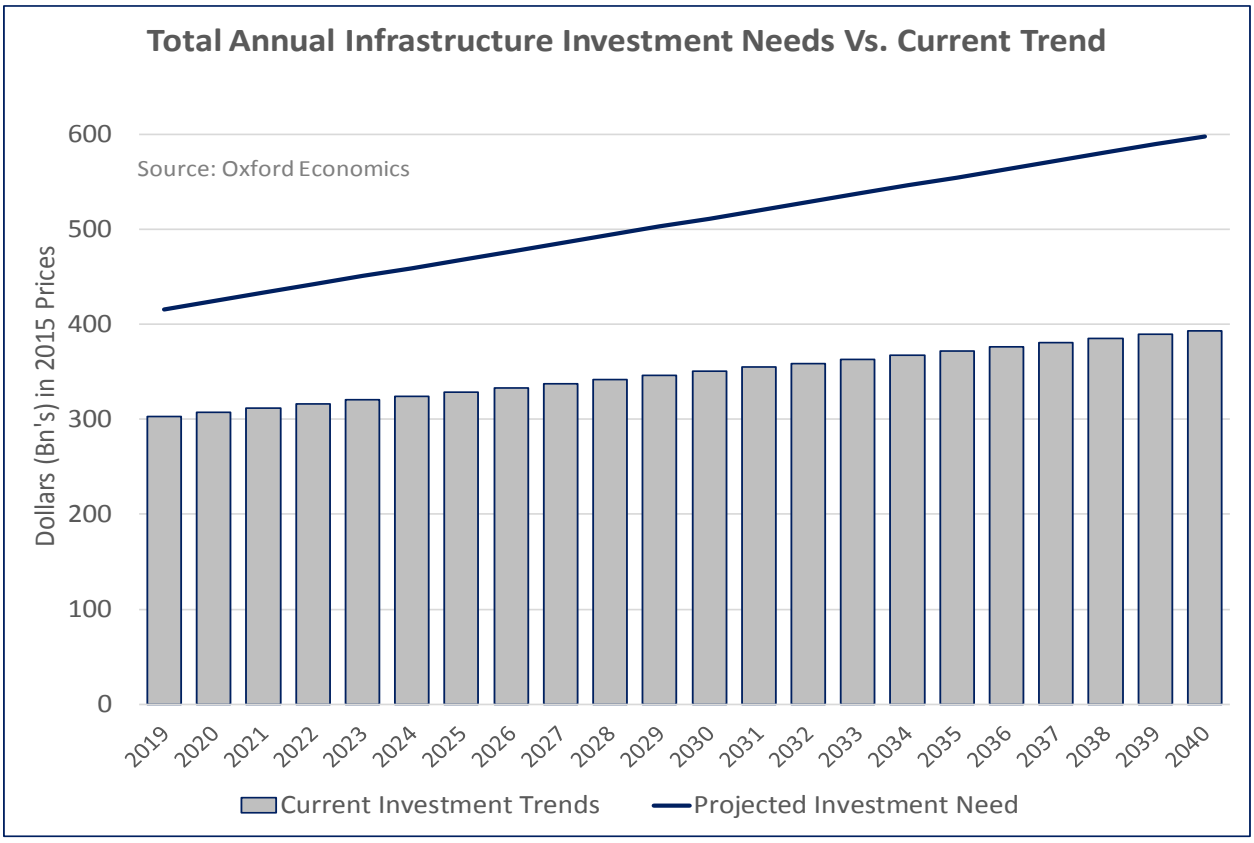
Charts 1 and 2 below indicate a gap between municipal spending in the United States and the need of about $200 billion for 2019; municipal spending is projected to fall short by an average of $162 billion annually between 2020 and 2040 based on the Oxford data.

These charts are based on Oxford Research's more conservative analysis of U.S. infrastructure needs). Chart 1 assessed the gap between actual municipal infrastructure spending based on data from the Securities Industry and Financial Markets Association and then looked at projected gaps based on current municipal trends and the Oxford needs estimate (Chart 2).

Based on average predevelopment costs of 10% of capital costs,[33] an additional $15 billion or more in predevelopment funding would lead to a minimum of 9x in infrastructure spending, not including any additional economic multiplier effects or project investment due to market standardization. As we have already seen with solar installations, this standardization is likely to produce additional investment.

[31] Letter to Congressional Leaders, January 25, 2021. See: https://milkeninstitute.org/sites/default/files/2021-01/LettetoCongresThValuoPredevelopmenInvestmentForStrengtheningandSustainingU.S.Infrastructure.pdf.
[32] Oxford Global Infrastructure Report, 2017 U.S. data is drawn from pages 65 and 148 for the key US data.
[33] Predevelopment costs generally range between 7-12% of final capital cost at ribbon cutting, depending on the project type. Based on sources from our project developer database, 10% is our working rule of thumb for cost and need estimation.


Infrastructure Financing Need Vs. Municipal Market Capacity
Sources: SIFMA, ASCE Infrastructure Report Card
Dollars (Bn's)
500
450
400
350
300
250
200
150
100
50
0
2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
New Capital Municipal Bond Market (Bn's)
Infrastructure Financing Need


Total Annual Infrastructure Investment Needs Vs. Current Trend
Source: Oxford Economics
Dollars (Bn's) in 2015 Prices
600
500
400
300
200
100
0
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040
Current Investment Trends
Projected Investment Need

Estimate #2: Predevelopment Needs Based on Replicable Project Category Estimates

We reached out to project finance experts to aggregate estimates of predevelopment need and impact for a set of high-demand projects that communities are asking for where skill set and project development funding are unavailable.

The table below summarizes the aggregated data for predevelopment for the four high-demand use cases we analyzed.

Project Type	Aggregated Estimates
Multi-Purpose Community Center/Emergency Center with micro-grid for small communities to be located at 130,000+ schools, hospitals, or in other multi-purpose facilities.	Project size: $5-20 million. $5M x 30,000 projects = $150B Projected Predevelopment Costs: $15B
E.V. Charging Stations for advanced mobility and equity services in urban neighborhoods, specifically commercial business centers.	Project Size: $2-12 M Total Costs (Based on White House goal for 500K E.V. Chargers): $10.7 Billion* Projected Predevelopment Costs: $1.07 Billion
Broadband for rural coops nationwide.	Project size: $5-100 M Number of rural coops: 838 Projected Predevelopment Costs: $1.7 billion Source: Post Road analysis, based on EIA data
Water projects for (a) rural, upstream conservation infrastructure implementations to improve downstream municipal water quality and urban and/or coastal green infrastructure to address flooding, stormwater, sea rise, and waste recycling or sewer outflows**.**	Advanced wastewater treatment needs estimates from EPA for 18 target states on (a) is $11.333 B The combined national need on (b) for "combined sewer overflow" and "stormwater management" is $67.2 B Projected Predevelopment Costs: $7.8 B
Predevelopment Needs for 4 Major Use Cases	$25.5 billion

IV. CONCLUDING RECOMMENDATIONS: *EDA NEXT*

As Congress wisely considers big and bold investments to make our nation's infrastructure globally competitive and equitable to all, we must also ensure that a small portion of new spending is carved out to incentivize long-term resilience and infrastructure system performance for both public and private infrastructure.

Without the right carrots, sticks, and technical assistance capacity investments designed to promote better infrastructure outcomes, we won't be able to overcome the multi-trillion-dollar deferred maintenance funding gap that existed long before the pandemic, let alone marshal the trillions we will need by 2050 to address climate change and extreme weather. *That's because a fix for what ails us is not just a question of how much we spend but also how well we buy and maintain these life-cycle investments.*

In my testimony today, I have proposed that EDA use its existing funding and authority to deliver focused support to communities seeking critical resilient infrastructure projects, such as emergency centers with micro-grids, broadband, critical water systems, and regionally-demanded projects in each of its six regions.

Moving forward, as the Committee assesses the future for EDA and EDA reauthorization, I believe a return to its roots as a unique project accelerator is advised. With additional funding and direction from this Subcommittee and Congress, EDA can catalyze a growing pipeline of next-generation, community-scale infrastructure projects, promote better local best practices, and break down federal agency silos over time. These would be wise investments to make.

While the critical performance shifts we need for better U.S. infrastructure cannot happen overnight, these challenges and opportunities can be addressed realistically in stages. It begins with the proposed three-year investment to help distressed communities now with predevelopment support and the creation of Regional Resilience Centers to find cross-modal efficiencies and lift up equitable outcomes.

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Thank you for bringing attention to these critical issues and for the opportunity to testify here today. I am happy to answer any questions you may have.