Green Stimulus and Recovery Series

US CITY STIMULUS:
Advancing Localized Green Recovery and Resilience

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ROCKY MOUNTAIN INSTITUTE

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Green Stimulus and Recovery Series

Rocky Mountain Institute's Green Stimulus and Recovery Series presents our insights on how countries around the globe can use stimulus and recovery investment to build back better from the COVID-19 crisis and advance us toward a cleaner, healthier, more just, and more resilient future for the one planet we all share. The reports provide a framework for planning and evaluating stimulus efforts along with recommendations for green stimulus and recovery investments and actions specific to the United States, China, India, sub-Saharan Africa, and the Caribbean that can help optimize efforts to rebuild in these countries and regions.

Executive Summary

Cities across the United States are being hit hard by COVID-19. They are simultaneously struggling to manage unprecedented public health challenges, a rise in social unrest, increased unemployment, and a looming housing crisis on top of major budgetary challenges due to unanticipated revenue losses from the economic downturn. In order to minimize staffing cuts and effectively respond to this current public health and economic crisis, cities have an immediate need for a massive infusion of direct and flexible federal aid.

Once these immediate needs for relief are met, there will also be a need for federal stimulus investment to facilitate a robust recovery for cities. If this investment is done strategically, it can help build a new green economy that creates jobs, improves equity, supports public health and safety, increases resilience, and decarbonizes.

This report outlines five strategic, city-specific green stimulus ideas that Congress could consider to help our cities build back better:

1. **Automated and streamlined permitting and virtual inspections** will reduce soft costs for cleantech, make the permitting process more resilient, and reduce city staff time spent processing permits.

2. **Electric, efficient, affordable housing and rehabilitated abandoned properties** will improve energy security, create three times as many jobs as investing in the fossil fuel sector, and revitalize communities.

3. **Public transit and active transportation modes** will result in safer mobility, less pollution, and increased access to basic needs.

4. **Resilience for communities and critical infrastructure** will improve city preparedness for the next crisis while creating jobs.

5. **Urban greening** will mitigate carbon dioxide and other pollutants, improve access to green space, revitalize communities, and create jobs that require minimal onboarding.

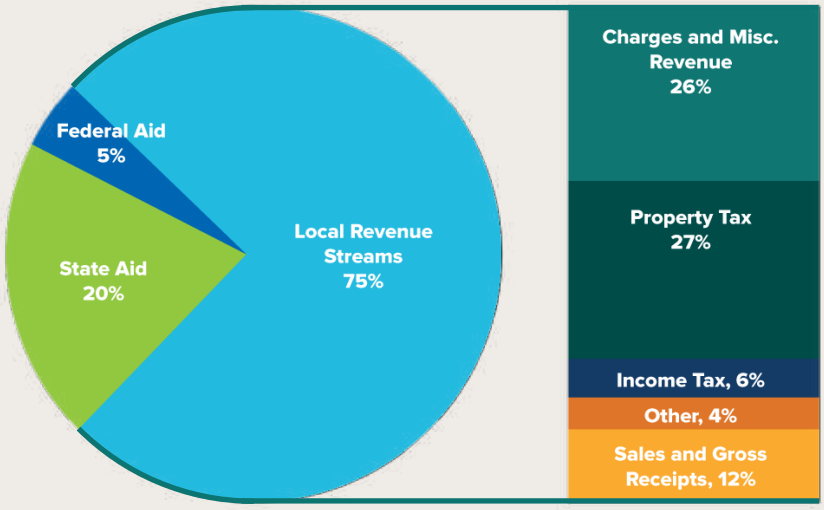
Introduction

The Challenge

Cities are on the frontlines of COVID-19 and are feeling the pain. Because local governments are required to balance their budgets, they are making major cuts to staffing and services—all while trying to tackle an unprecedented public health and unemployment crisis. The current pandemic has **brought state and local public employment lower** than at any point during the Great Recession.

Cities will be financially hit by COVID at different times because of both how different states manage the pandemic as well as how the cities source their revenue. About **75 percent of city funding** comes from property tax, income tax, sales tax, and charges from services rendered, but the breakdown of this funding varies widely by city. Cities that generate most of their revenue from sales or income/earnings taxes have already been hard hit by COVID-19. Cities that rely on property taxes will take longer to be impacted as rising unemployment dampens real estate demand and increases foreclosures. Cities that generate revenue through services such as trash collection, water, transit, and parking may see revenue fluctuate depending on services (e.g., transit is more volatile than trash/water). Direct and flexible federal aid to cities, separate and in addition to state aid, would not only help those in need now, it could also mitigate drastic cuts, layoffs, furloughs, and service reductions for the cities that will be hit soon.

Average City Revenue Stream Breakdown



Data source: **Brookings**

Cities need disaster relief immediately, as they have been largely neglected by the initial phases of federal stimulus relief. The federal government provided cities with populations over 500,000 direct financial assistance via a stabilization grant program, the Coronavirus Relief Fund. However, out of 3,262 counties and 39,044 local governments nationwide, **only 171 qualified**. In addition, "CARES ACT" funding only supports direct COVID-related health expenses and not the broader set of challenges cities are now grappling with due to COVID.

Not giving immediate aid to cities in the form of direct and flexible financial assistance would be a disastrous policy decision that will have cascading impacts for years, if not decades. More and quicker support from Congress could help avoid widespread layoffs and furloughs in cities in every corner of the country. **Any financial disruption and capacity reductions in local governments will only further complicate and constrain public health response and economic recovery.**

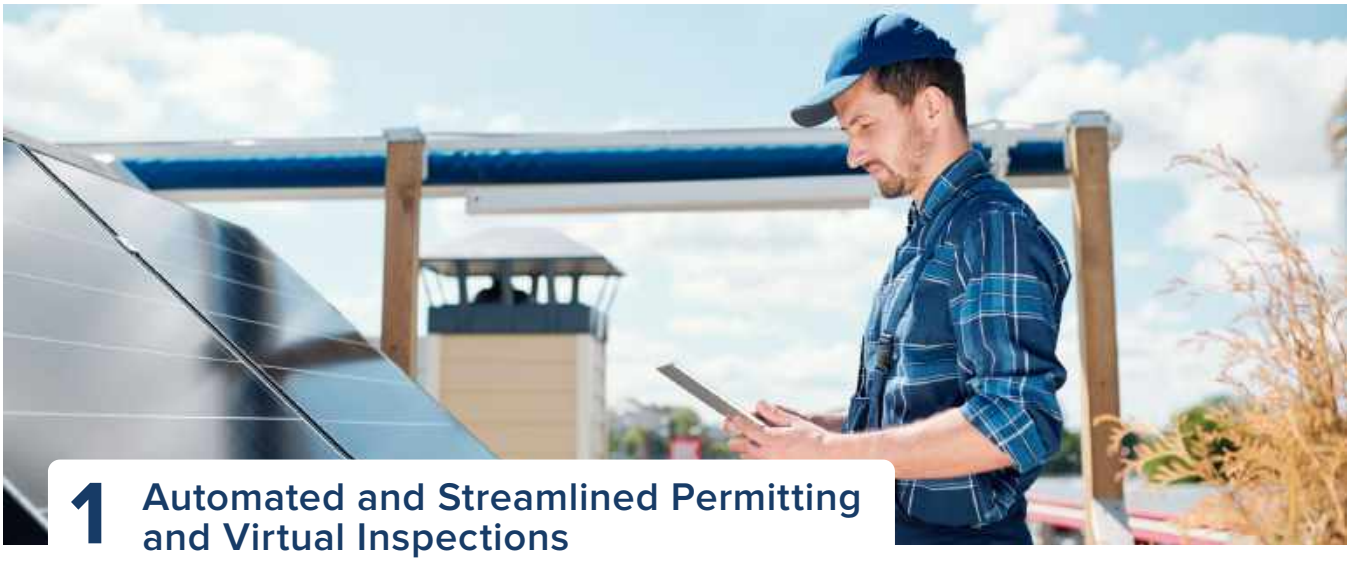
Green Recovery

Since many people are suffering due to this pandemic, federal funding should first be focused on relief. When funding moves beyond relief and toward stimulus, there is an opportunity to not only address some of the pain the pandemic caused and the problems it revealed but also to build back better. As highlighted in RMI's ***Global Stimulus Principles*** report, the economy we build now through stimulus should not be the same economy we are trying to decarbonize. The current COVID-19 crisis shows many parallels to, and interconnections with, a looming climate crisis. A response that addresses both crises at once will advance a low-carbon economy that is more resilient and helps mitigate the worst impacts of climate change, while simultaneously improving our economy, the environment, and the health of our communities. A green recovery is a responsible recovery.

City-Specific Ideas

This document focuses on stimulus ideas that cities can lead if they receive federal funding. Most of this content also applies more broadly to local governments of any type. The following ideas for stimulus and recovery were prioritized because they will create jobs and grow the economy, support public health and reduce air pollution, and enhance economic, energy, and climate resilience all while decarbonizing the economy. The five city-specific ideas below include the problem this idea would help address, the stimulus funding ask to Congress, how cities could use funding if they receive it, and the resulting benefits.

Many of these ideas will have larger impacts on communities of color and low-income communities because they are disproportionately impacted by climate change, air pollution, and COVID-19. Solutions should be purposely structured to ensure an inclusive new green economy. This might include new programs having carve-outs for women- and minority-owned businesses, the creation of jobs that pay a living wage, and the inclusion of a diverse set of voices in any new program design.



1 Automated and Streamlined Permitting and Virtual Inspections

Problem Addressed: Permits and licenses are essential for safety and are a key funding mechanism for cities. In many cases, permit applications still require an in-person visit to a city office, which is risky during health pandemics such as COVID, and leads to more driving and congestion during normal times. The lockdown revealed the need to automate and streamline city permitting processes and develop virtual inspections. This could result in cities being able to issue more permits and therefore receive more tax receipts and permitting fees. This could be a way to fill some budget gaps due to COVID and allow cities to be more resilient when the next crisis occurs.

Federal Funding Potential: Grants to local governments to **automate and digitize permitting and inspection processes**.

Funding Use: Overhaul and streamline how cities manage permitting and conduct inspections for job-creating cleantech including small-scale solar installations, high-efficiency heat pumps, electric vehicle supply equipment, behind-the-meter battery energy storage, rooftop greenhouses, and other building retrofits. For maximum impact, non-cleantech-related permits and licenses (i.e., business licenses) should also be moved online and streamlined. This will require deploying and training staff on the necessary technology to automate and move the permitting process online and start implementing virtual inspections.

Benefits and Success Stories:

- **Public Health and Safety:** Virtual inspections allow for safe, no-touch service delivery. Online permitting eliminates the need for in-person visits to city offices, minimizing risk for staff and businesses trying to secure permits. Solar is safe to install during COVID since installation occurs outdoors. New construction projects also result in significant outdoor work, which is safer during the pandemic and beneficial as the nation starts reopening in phases. These are jobs people could begin safely today.

- **City Capacity:** City staff are stretched thin right now due to layoffs and furloughs while also dealing with public health emergencies. Automated, online permitting and inspections would free up capacity by reducing processing time.

- **Access:** Automated, online permitting and inspection could reduce overall deployment costs of some cleantech. This could result in increasing access, improving the economics, and potentially making these technologies available to a broader population. Particularly cumbersome permitting processes for certain types of cleantech have resulted in some installers **refusing to work in particular cities**, so streamlining permits should also increase competition and the options available for deployment and installation.

- **Resilience:** City services delivered online are more resilient and allow for safely continuing work, even during times of crisis. Alexandria, Virginia, already had **online permitting and virtual inspections**, so when the city's in-person permit center was closed and in-person residential inspections were suspended, projects could still move forward through online processes.

- **Jobs:** More than **18.5 percent of clean energy jobs were lost** in May 2020 and many projects were halted due to the inability to receive permits. Online permitting and virtual inspections may have allowed some of these employees to continue working.

- **Environmental:** Speeding up deployment of solar and retrofit projects should reduce project cancellations caused by delays and result in more projects. One study found that a one-week delay in solar permitting results in a **5–10 percent client cancellation rate**, resulting in lost revenue for the city and solar developers. Online permitting and virtual inspections also result in reduced emissions from travel.

- **Citizen/Customer Satisfaction:** Permit seekers will be more satisfied with faster, more streamlined service, resulting in fewer complaints. Los Angeles's **streamlined solar permitting**, launched in 2014, not only allows customers to get their permits approved online in minutes, but also compelled the utility to double its staff for rebate processing to speed up the entire process.

Key Long-Term Implications: Automated permitting and virtual inspections could reduce costs and increase customer satisfaction. For example, this approach could reduce "soft costs" of solar projects by up to **$1.00/W** and reduce the entire permitting process from six weeks to a few days. Additionally, as homeowners and contractors get more comfortable with virtual inspections, it could spur other virtual home improvement innovations, such as virtual energy audits, which could increase awareness for energy improvements and retrofits.

2 Electric, Efficient, Affordable Housing and Rehabilitated Abandoned Properties

Problem Addressed: Before the pandemic, there were **36 affordable housing properties** for every 100 very low-income renters in need. The affordable housing crisis disproportionately impacts communities of color since **20 percent of black households** qualify for affordable housing compared with 6 percent of white households. The pandemic has only exacerbated this crisis due to increased unemployment and loss of income. Furthermore, most existing affordable housing needs major renovations resulting in higher utility bills, which increases the energy burden within communities.

In addition to affordable housing, many cities will see more abandoned properties. Neighborhoods with abandoned properties are focal points for crime, violence, urban decay, and environmental degradation, and they can lead to waves of disinvestment in cities. Further, abandoned properties directly **impose costs to local government agencies** through property maintenance, code enforcement, police and fire, and lost property tax revenue, while indirectly imposing costs on surrounding property owners. Stimulus funding that focuses on net-zero energy affordable housing and revitalizing abandoned properties would not only reduce energy insecurity but also spur a new green building workforce.

Federal Funding Potential: Provide cities with funding to decarbonize new and existing building stock focused on affordable housing, public housing, and abandoned properties.

Funding Use: Build new, efficient affordable housing, rehabilitate abandoned properties, and weatherize and retrofit existing affordable housing with an emphasis on building electrification.

Benefits and Success Stories:

- **Equity: One in three households** in the US is energy insecure, meaning they face challenges in paying energy bills. Upgrades to residential properties will reduce energy insecurity in communities. Building new affordable, net-zero energy ready housing and renovating existing affordable housing will begin to address the affordable housing crisis in many cities, while minimizing utility bills for citizens who need it the most. **Denver Housing Authority** renovated 12 of its affordable housing buildings resulting in savings of 2,200 MWh of electricity, 194,000 therms of natural gas, and 20 million gallons of water.

- **Revitalize Communities and Avoid Gentrification:** Reinvesting and recovering these abandoned properties can stabilize neighborhoods, improve local housing markets, and save the city money. **Baltimore's Vacants to Value program** revitalizes vacant properties and makes them more energy efficient. Furthermore, it makes the rehabilitated abandoned property more affordable to the homebuyer by providing down payment assistance, allowing families to build wealth through homeownership.

- **Jobs:** Every $1 million invested in building efficiency **creates 7.7 full time jobs**, almost three times the number of jobs created in the fossil fuel sector.

- **Environment and Safety:** Building electrification and energy efficiency improvements would begin to decarbonize the building sector. Electrifying buildings would also eliminate the harmful indoor air pollution caused by burning natural gas in homes.

Key Long-Term Implications: As zero-energy ready construction becomes the norm, it will increase the manufacturing demand for high performance equipment (e.g., air source heat pumps) and reduce the learning curve preventing many contractors from breaking away from business-as-usual construction practices.

3 Public Transit and Active Transportation Modes

Problem Addressed: Infrastructure is oftentimes synonymous with highway expansions. While highway expansions are thought to reduce congestion, the extent of expansions has outstripped population growth over the last 30 years, yet **traffic delays are up 144 percent**. This is due to highway expansions actually increasing reliance on vehicles and therefore increasing vehicle miles traveled, resulting in more local pollution and CO_2.

The pandemic has shed light on alternative places mobility infrastructure should be spent. First, there is a premium on having safe spaces for people to walk and bike. Second, local transit budgets are struggling as ridership of **public transit is down 60–70 percent** due to COVID, exacerbating challenges of aging transit infrastructure, deferred maintenance, and underfunded expansions. Instead of continuing with business-as-usual highway expansions, there is an opportunity to reduce vehicle miles traveled through non-automobile-focused infrastructure.

Federal Funding Potential: Reallocate funding from highway expansions that result in more vehicle miles traveled. Instead, focus transportation funding on improvements to urban street networks, public transit, and active transportation modes (e.g., bicycling and walking). Provide funding for cities to establish non-automobile-focused infrastructure.

Funding Use: Cities should invest in sidewalk expansions, protected bikeways, bus-only lanes, and other transit priority infrastructure. Cities should prioritize these humancentric system improvements and then, as possible, invest in electrification strategies—with an emphasis on transit. Cities can use the current period of low public transit use to establish electric bus systems—replacing outdated fleets, building out infrastructure, and planning to service electric bus fleets. Public transit agencies should prioritize keeping vulnerable workers and riders safe and optimizing service planning to prioritize their cities' and regions' most vulnerable riders. This means funding operations and maintenance first, and system expansion second.

Benefits and Success Stories:

- **Access:** Public transit is critical for many essential workers and will continue to play a key role in moving commuters who do not have the privilege of teleworking or having walkable access to basic needs, such as a grocery store. Additionally, black Americans are less likely to own a car and therefore are **four times as likely to commute by public transit** than white Americans; thus ensuring transit remains a public good is an equity issue.

- **Public Health and Safety:** New sidewalks and protected bike lanes protect pedestrians and bicyclists. One study found that **protected bike lanes reduced fatal crash rates** by more than 60 percent in Seattle and 38 percent in Chicago.

- **Jobs:** Spending on public transportation creates **31 percent more jobs** per dollar spent compared with the same expenditure on new roads.

- **Environmental:** Greater use of transit, walking, and biking will reduce dangerous local pollution and greenhouse gas emissions.

- **Economic Development:** Every $1 invested in public transportation creates **$4 of economic activity** in the community.

Key Long-Term Implications: These policies would result in more equitable access to jobs and other opportunities, safer mobility options, reduced car dependence, and improved air quality for all.

4 Resilience for Communities and Critical Facilities

Problem Addressed: We must not only consider the current pandemic. Communities are also susceptible to natural disasters such as tornadoes, hurricanes, and earthquakes. Facilities reliant on diesel generators typically only have enough fuel to last a couple of days, whereas facilities that utilize solar plus storage are more resilient because batteries are replenished every time the sun comes up. Efficient, electric buildings can provide more building capabilities with smaller solar and battery sizes and could provide better thermal comfort during grid downtimes. Further, residential or commercial storage charging stations can provide power to electric vehicles when traveling to gas stations may be difficult or gas station infrastructure may be compromised. We need to build infrastructure that is prepared for unforeseen circumstances.

Federal Funding Potential: Provide funding to increase resilience within communities so cities are better prepared for any crisis. Support ambitious clean energy deployment by extending and expanding relevant programs and tax policies.

Funding Use: Invest heavily in local solar and storage capacity, energy efficiency, decarbonization, and electric vehicles to create more resilient communities. Focus funding on residences, community centers, recreation centers, and critical facilities (hospitals, fire stations, schools, libraries).

Benefits and Success Stories:

- **Public Health and Safety:** Losing power during a disaster can put lives at risk, whether that's exposing people to severe weather conditions, turning off essential medical devices, or losing access to safe food. Batteries and solar can provide backup power during disasters that cause grid outages. For example, the **Stone Edge Farm microgrid**, based primarily on solar and 10 different types of batteries, operated continuously through 10 days of Sonoma County fires in 2017, and again through PG&E's Public Safety Power Shutoffs (PSPS) in fall 2019, with its solar array operating at 50 percent of normal production despite the smoke and ash.

- **Cost Savings:** Every $1 spent on hazard mitigation can save the nation **$6 in future disaster costs**. After Hurricane Harvey, Houston **increased building code regulations** to require that all new and redeveloped structures be elevated higher than required by the previous code. As a result, each newly developed or redeveloped home has the potential to save upward of $50,000 in rebuilding costs from potential future flooding. If battery storage is designed for peak shaving as well as resiliency, it can also result in utility bill savings. For example, Fremont, California, **developed a solar microgrid on its fire station** that is projected to save the city $350,000. Reducing municipal utility bills during COVID allows funds to be allocated toward other priorities.

- **Equity:** Public health crises and extreme weather events disproportionately impact low-income communities and people of color. Moreover, they will increase displacement, housing poverty, and homelessness, so it is vital to provide communities with critical facilities during times of crisis.

- **Jobs:** Every $1 million invested in renewables supports **7.5 full-time jobs**, almost three times the number of jobs supported in the fossil fuel industry.

Key Long-Term Implications: These policies would result in more equitable access to jobs and other opportunities, safer mobility options, reduced car dependence, and improved air quality for all.

5 Urban Greening

Problem Addressed: Many cities have urban forestry or parks and recreation departments that are charged with planting and maintaining trees within the city limits. But these departments are often underfunded and undervalued. Many of them have also been hit hard over the last decade by extreme weather events caused by climate change and the invasion of destructive invasive species, such as emerald ash borer. Furthermore, in some cases, the pandemic has resulted in lost income due to some cities waiving user fees or has led to increased maintenance costs, as the pandemic drives heavier than normal usage of parks. When access to outdoors and clean air is more important than ever, ensuring these departments are funded and able to maintain their employees has never been more important. One way to do that is through an urban greening effort including urban reforestation and urban gardening.

Federal Funding Potential: Issue grants to local governments to boost urban reforestation and gardening in local communities.

Funding Use: Tree plantings and gardening should be targeted toward both public lands, like parks, and abandoned properties and vacant lots that don't make sense to rehabilitate. Funding should focus on both planting and maintenance of new trees and gardens.

Benefits and Success Stories:

- **Economic:** Trees provide shade and mitigate the urban heat island effect, resulting in increased comfort and reduced cooling costs for residents, businesses, and city buildings. For example, Denver Digs Trees has **provided more than 60,000 trees** to Denver residents over the past 35 years. Denver's urban forest shades **19 percent of the city** and provides $122 million in benefits to residents each year. Trees also increase curbside appeal and property values, resulting in financial gains for homeowners and for cities that rely on property taxes.

- **Environmental:** Urban reforestation initiatives have the potential to mitigate up to **22 million tons of carbon dioxide equivalent (CO_2e)** emissions per year simply by increasing urban tree cover in 3,535 US cities. Washington, D.C., has been a **leader in this space** among cities. It has a standalone municipal agency responsible for tree maintenance across the city. As of today, D.C.'s urban tree canopy hovers near 35 percent, with nearly 2 million trees. These trees remove 540 tons of pollution per year and store 526,000 tons of carbon. Urban trees improve air and water quality, reduce energy costs, and improve human health, even as they offer the benefit of storing carbon.

- **Revitalize Community:** If an abandoned property is not fit to be restored, it could also be demolished and turned into a green space, such as an urban garden, improving community access to food, increasing adjacent and surrounding property values, and adding valuable community assets. For example, Detroit's **Civic Commons project** turned vacant lots into parks and neighborhood hubs for community gardens and smaller recreation spaces. Further, they partnered with workforce development programs to train and employ 20 residents on green collar construction and maintenance jobs, which allowed residents to participate in the revitalization of their communities.

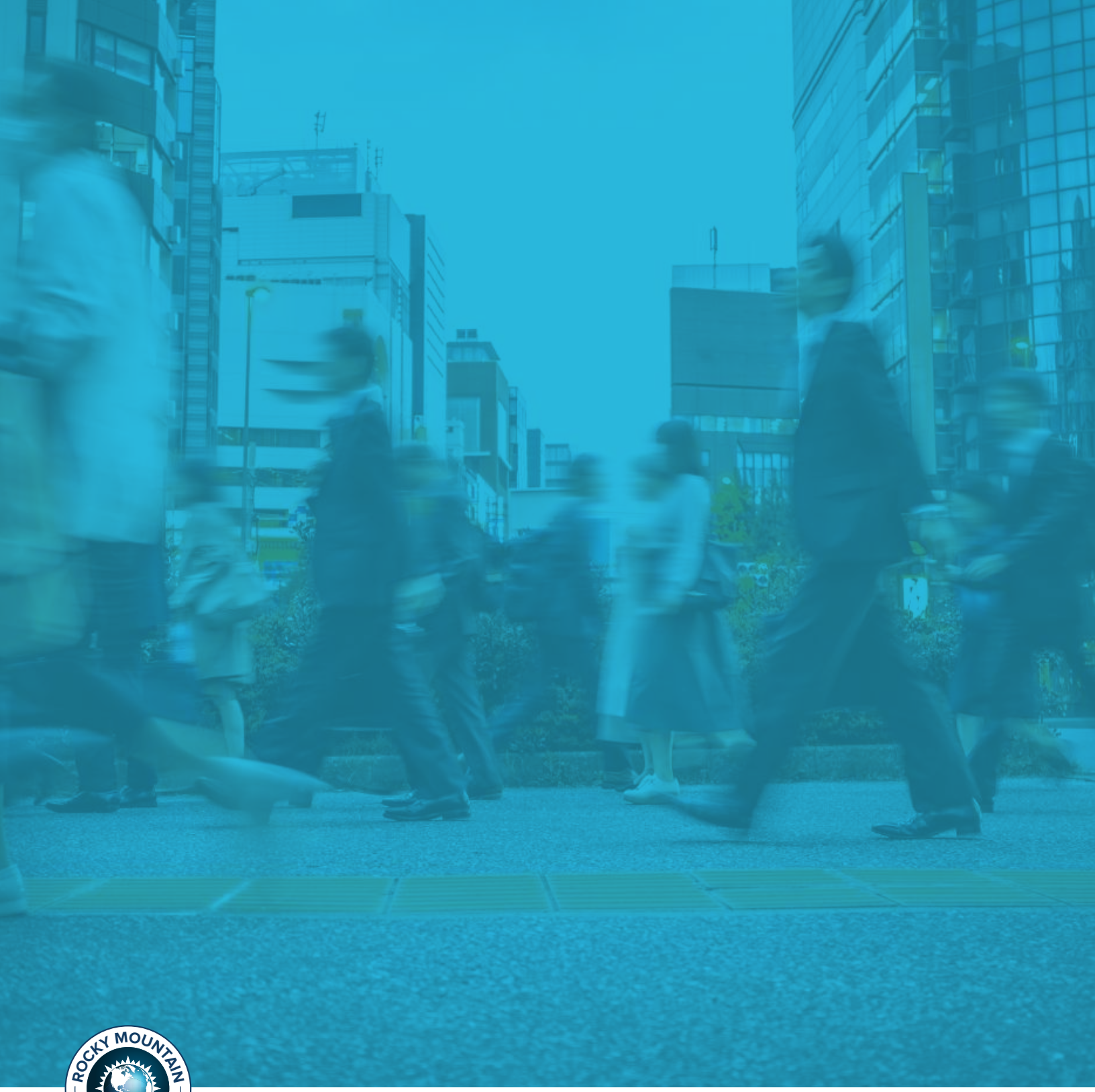
- **Public Health and Safety:** Green space can substantially mitigate urban heat island effects that are only going to get more widespread and severe as a result of climate change. About one in five American adults live with some form of mental illness. Access to green space brings **substantial mental health benefits**, such as lower levels of depression and anxiety, greater social engagement, and better manageability of life tasks—especially in low-income communities with relatively poor access to nature. Trees also **remove a variety of pollutants**, including ozone and nitrogen oxides, which can cause health problems.

- **Safe Jobs:** Every $1 million invested in reforestation and sustainable forest management can support nearly **40 full-time-equivalent jobs**. These jobs require minimal training, so people could get to work immediately, while maintaining existing employees in the urban forestry or parks and recreation departments. Additionally, planting trees occurs outside, so it is a job that would be safe to perform even during COVID.

Key Long-Term Implications: This will result in more beautiful, nature-filled cities with cleaner air, better soil, and more shade. Residents and visitors will benefit from improved health and an improved quality of life.

Conclusion

To address the problems cities are facing and build back a greener and more prosperous economy for all, cities can encourage Congress to focus future stimulus funding on the five ideas described above. Focusing funding on these areas will help make communities more resilient in the face of future crises, while addressing unemployment, growing the economy, decarbonizing the nation, and improving people's health today. To make this more tangible, mayors and their staff could use this resource to highlight for their congressional delegation the direct impacts this could have in their city in terms of number of jobs, economic development opportunity, and equity benefits. Further, mayors could engage with coalitions like We are Still In, Climate Mayors, C40, Local Governments for Sustainability (ICLEI), or Urban Sustainability Directors Network to make their needs known and elevate their collective voice to Congress.



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