

Opportunities for Health Professionals to Advance Climate, Health and Equity through the Infrastructure Investment and Jobs Act of 2021



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Advancing Climate, Health and Equity: The Infrastructure Investments and Jobs Act of 2021

The Infrastructure Investments and Jobs Act of 2021 (“IIJA” or “bipartisan infrastructure law”) was signed into law on November 15th, 2021. Infrastructure shapes the opportunities for health and well-being in communities.¹ The law offers many opportunities to address the climate crisis, promote health, and advance health equity and environmental justice. But these opportunities will come to fruition *only* if federal agencies and local and state governments intentionally integrate climate, health and equity into implementation of the law.²

Health professionals can play an important role in educating policymakers, the public, and other stakeholders about the climate, health, and equity impacts of infrastructure and transportation investment options. But we must act quickly to ensure our nation’s investments in infrastructure help to meet our climate, health and equity goals.

To help health professionals advocate for implementation of IIJA in ways that best promote health and health equity, and keep our climate safe, this brief provides an overview of the components of the new law that are most relevant to climate change and health.

Public Infrastructure and Health Equity

“Infrastructure, or the physical attributes of a community, forms the building blocks of a community. It’s not just roads and bridges. It encompasses the systems that connect us to essential services—from affordable energy to power our buildings, to clean running water in our faucets and reliable broadband to get online—as well as critical neighborhood amenities like good transit and quality parks.

The infrastructure that a community has **shapes the opportunities** for health and well-being available to the people who live, learn, work and play there.³ But a long legacy of discriminatory policies and structural racism has created inequities in who does and doesn’t have access to adequate infrastructure. We can build health equity by bolstering our infrastructure and ensuring we are all surrounded by conditions that enable us to live the healthiest life possible.”

- Robert Wood Johnson Foundation

Infrastructure and the Climate Crisis

Infrastructure is centrally important in decarbonizing our economy, protecting people from harmful climate impacts, and building community resilience to climate change. A recent report found that across all economic sectors, infrastructure is responsible for a very large proportion of all greenhouse gas emissions and adaptation costs globally.⁴

Transforming the infrastructure of the energy, transport and building sectors – the largest sources of greenhouse gas emissions – will be required to meet our climate goals. Aging infrastructure makes communities vulnerable to escalating climate-related risks from extreme floods, sea level rise, storm surge events. Investments in green infrastructure and nature-based solutions provides protection from extreme weather events while creating additional climate, health and equity benefits.

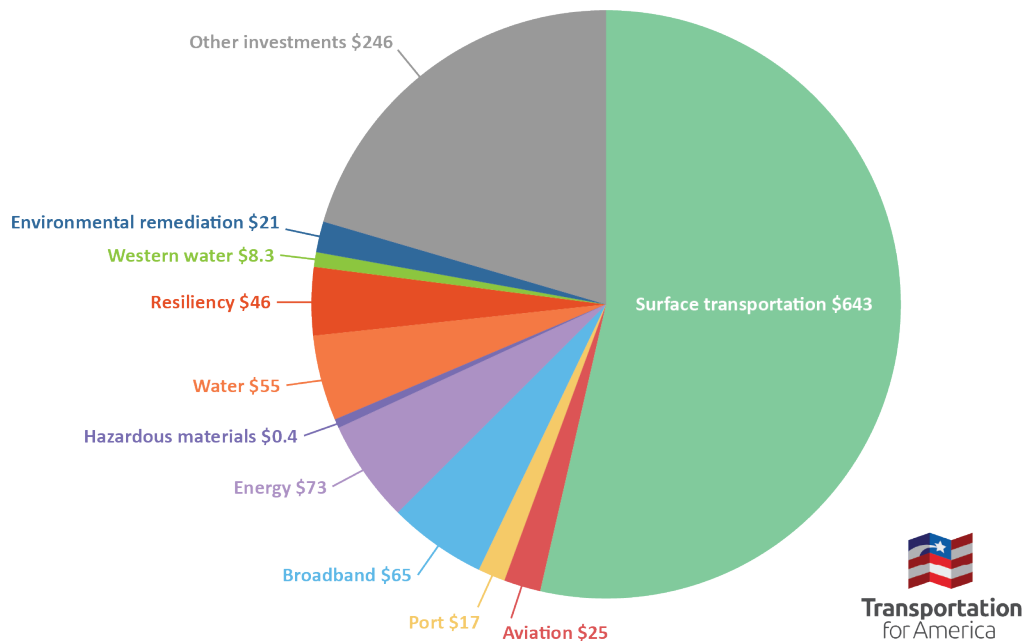


What is the Infrastructure Investments and Jobs Act?

The bipartisan IIJA – signed into law in November 2021 – is a \$1.2 trillion dollar spending bill that will fund more than 350 programs across over a dozen federal departments and agencies (See FIGURE 1).⁵

- 54 percent (\$643 billion) of the funding is directed to reauthorization of the “surface transportation” law through 2026, including substantial increases in funding compared to the prior five-year transportation spending bill.⁶
- The remaining \$557 billion addresses a broad range of infrastructure investments, from drinking and wastewater infrastructure to broadband to the power grid and ports.

FIGURE 1: Overall Funding in IIJA (in billions)



Most (90%) of the infrastructure dollars will flow through state and local governments. For existing programs (e.g. Weatherization Assistance Program,⁷ Clean Water and Drinking Water State Revolving Funds,⁸ Highway Trust Fund⁹), administrative mechanisms and criteria are already in place to move money out the door rapidly. For new programs (e.g. Clean School Bus Program, Orphan Well program¹⁰) federal agencies are developing new criteria and mechanisms for the distribution of funds.

IIJA money will be distributed primarily through “formula funding”, competitive grants, low-cost federal loans, and direct federal spending. Formula funding means that allocation is determined by a formula based on population and need; states have wide latitude in how formula funds are spent.

The White House [“Building a Better America” guidebook](#) provides a roadmap to funding resources and how government agencies and others can prepare for applying for funding resources. Examples of opportunities that align with the [Climate, Health and Equity Policy Action Agenda](#) that can provide both climate and health equity benefits are identified below.



Use your voice as a health professional to support infrastructure that promotes health equity, protects our health, and helps to address the climate crisis.

- **Talk with local community organizations** (environmental justice, environmental, health, civic) to identify the priority infrastructure needs in your community. Some key questions to address include:
 - Are there key health priorities in your community that infrastructure funds can help to address, such as asthma or diabetes?
 - How can infrastructure investments address the health and social inequities resulting from historical disinvestment in infrastructure in low-income neighborhoods and communities of color in your region?
 - Are there infrastructure funds that could reduce your community’s vulnerability to specific climate risks?
 - Could infrastructure programs help to reduce greenhouse gas emissions from major climate pollution sources in your area?
- **Partner with community-based organizations** to encourage elected officials and government agencies in your city, county, region, and state to apply for funding for infrastructure investments that meet community needs. Remember that school districts, air quality control districts, water districts, electric cooperatives and many others may be eligible to apply for funding of various sorts.
- **Identify and partner with local academics** who have subject matter expertise on climate and equity and environmental justice, and the sectors you seek to transform. They can help to identify key local and state policy issues and the advocates working on them.
- **Offer to assist government partners** in preparing applications for funding by providing your health expertise (e.g. data on health disparities and risks in your jurisdiction).
- **Tell relevant stories** to demonstrate why funding is so important for health equity and climate risk reduction. Provide information on the health impacts of air pollution, climate change and extreme events, the potential for averting huge health care costs, and the health benefits of climate solutions.
- **Demand that government agencies** implement processes to include community and health organizations in planning, developing, and implementing IJA-funded programs and projects. Encourage local and state government leaders to appoint an infrastructure coordinator who is committed to climate, health and equity.¹¹
- **Meet with federal elected officials** and their staff, and with regional representatives of federal agencies, to encourage them to prioritize investments that promote climate, health and equity.
- **Talk to your colleagues and members of your community** about how infrastructure investments influence health, and why healthy, equitable, and climate-friendly infrastructure investments are so important.

Infrastructure and Equity: The Justice40 Initiative

The Justice40 Initiative, established by Executive Order in early 2021, is a whole-of-government effort to redress widespread and persistent inequities by targeting 40% of the benefits of climate and clean infrastructure investments to “disadvantaged” communities.¹²



Low-income communities, communities of color, tribal communities, and some rural communities are disproportionately harmed by pollution, climate change, and the effects of historical disinvestment, racism, and marginalization. Many of these long-standing inequities have been caused or exacerbated by how local, state and the federal government fund and build infrastructure.

For example, racially discriminatory housing policies in the 20th century – such as mortgage “redlining” – led to persistent housing segregation with limited homeownership and home-based wealth creation for African American families.^{13,14} Today, neighborhoods that were redlined still have fewer environmental amenities such as trees and parks, and suffer a greater burden of environmental harms, such as polluting industries and busy roadways, due to related discriminatory zoning practices.¹⁵

Similar inequalities persist with regard to drinking water infrastructure, wastewater infrastructure, and transportation infrastructure. Equity should be a central consideration in infrastructure investments to ensure benefits are delivered where they are needed most.

Health professionals can advocate for equity in implementation of the 2021 bipartisan infrastructure law at all levels of government. Recommendations include:

- Target investments for: communities with health burdens from high cumulative pollution exposure or a high risk of climate impacts; communities with fewer government resources and less community capacity and political power; communities with a legacy of historic underinvestment in infrastructure; households disproportionately harmed by the transition to a decarbonized economy; and households that have benefited least to date from clean energy and other environmental investments.¹⁶
- Require that a minimum proportion of expenditures be invested in targeted communities.
- Establish and use accountability metrics that incorporate equity and health measures.
- Set clear guidelines and processes to provide frontline communities with substantive roles in investment decision-making.
- Push for funding for technical assistance and capacity building to ensure that low-resourced communities can participate fully in competitive funding opportunities.
- Advocate for complementary funding for workforce development and training to enhance job opportunities for residents of disadvantaged communities.¹⁷
- Prioritize and incentivize multisector and multi-benefit investments to efficiently address multiple community priorities.

Proposed California Justice40 Act

[The California Justice40 Act \(AB2419\)](#) would require a minimum of 40% of funds received by the state under IIJA to be allocated to projects that provide direct benefits to disadvantaged communities and at least an additional 10% for projects that provide direct benefits to low-income households and communities. Co-sponsored by the Greenlining Institute and the California Green New Deal Coalition, the bill would establish a Justice40 Oversight Committee composed of agency and stakeholder representatives.¹⁸

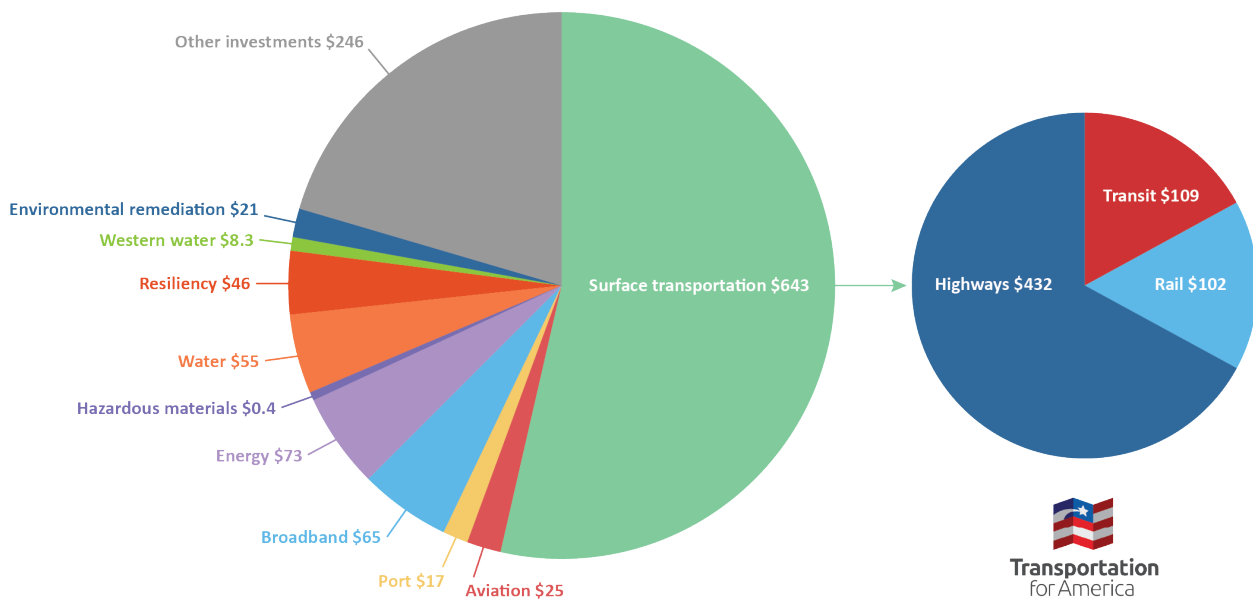
The following sections describe the basics and the opportunities for the health voice within each of the most relevant areas of funding.



Transportation

The transportation sector will receive about two-thirds of total funding in the infrastructure law: \$643 billion will flow to surface transportation over the next five years, of which a massive one-third – \$432 billion – is for conventional highway programs, versus just \$108 billion for public transportation and only about \$30 billion for active transportation infrastructure. Additionally, over five years the law provides \$102 billion for rail, \$38 billion for safety, \$7.5 billion for electric vehicle charging infrastructure, \$5 billion for electric and low-emission school buses, \$5 billion for electric buses, \$16.7 billion for ports and waterways, \$25 billion for airports, and \$1 billion for reconnecting communities.

FIGURE 2: Where is the infrastructure bill money going? (in billions)



Why health advocacy is necessary to support climate, health and equity in transportation

IIJA – which governs all federal transportation policy and funding through 2026 – offers a number of vitally important opportunities to reduce greenhouse gas emissions and to promote health and equity. But despite evidence that building more highway capacity does not alleviate traffic congestion, IIJA actually allocates record amounts for new highways. IIJA highway funding offsets and undermines the historic amounts for public transit. Without strong advocacy to steer investments toward projects with greater climate and health benefits, the massive IIJA transportation investments are likely to increase our reliance on carbon-intensive, car-centric transport and increase air and climate pollution and road injuries and fatalities.¹⁹ The health professional voice can play a critical role in optimizing the use of IIJA transportation dollars to advance climate, health and equity.

The three principles of health, equity and climate will inform health professional’s advocacy on transportation investments:

- 1. HEALTH:** Investments should prioritize active transportation, public transit, and car, truck, and bus electrification to maximize the health benefits of increased physical activity and reduced air pollution. Transportation offers access to jobs and to important goods, services, and opportunities that contribute to health and well-being. But our current transportation system, which relies heavily on motor vehicles powered by fossil fuels (especially diesel fuel) comes with substantial costs to our health.



Investments in safer roads, more accessible and convenient public transportation, better walking and biking infrastructure, and vehicle electrification can together lead to huge health gains.

The health impacts of transportation include:

- Increased cardiovascular disease, diabetes, obesity, osteoporosis, some cancers, and poor mental health associated with insufficient physical activity and sedentary lifestyles.²⁰
- Increased respiratory disease, adverse reproductive outcomes and neurologic impacts associated with air pollution from vehicles.
- Injuries and deaths – including pedestrians and bicyclists – due to motor vehicle crashes. Pedestrian and bicyclist fatalities have increased dramatically in recent years.²¹

2. EQUITY: Investments should benefit communities and households that have been disproportionately harmed by discriminatory transportation policies and programs, and that stand to benefit the most from healthy, climate-friendly transportation investments. The health of people in low-income communities and communities of color is disproportionately harmed by the current transportation infrastructure, including:

- They are more likely to live in high traffic density neighborhoods without safe places to bike and walk, increasing risks of pedestrian and bicyclist fatalities.
- They are more likely to suffer high burdens of air pollution from proximity to busy roadways.
- They are least likely to own a car and more dependent on public transit to get to jobs, school, services, and recreation.²² Yet, for decades, there has been far more public investment in highways than in public transit.
- Highways – especially those built decades ago – are disproportionately likely to be built through communities of color, displacing residents and severing communities from neighbors and from essential resources.²³

3. CLIMATE: In the U.S., the transportation sector is now the largest contributor to greenhouse gas emissions (GHG), in 2019 accounting for 29% of U.S. emissions.²⁴ Light-duty vehicles and medium- and heavy-duty trucks accounted for 58% of transportation GHG emissions. Transportation agencies should be required to demonstrate that investments are aligned with national and state climate goals. Key strategies to reduce transportation GHG emissions include:

- Reducing vehicle miles traveled through smart land use design and support for public transit and active transportation.
- Vehicle electrification.
- Fuel efficiency and low-carbon fuels.

California advocates push for climate, health and equity in IJA transportation investments

Advocates are fighting for several bills in the California legislature to ensure that transportation dollars are used to advance climate, health and equity goals in the state.²⁵ These bills would: align transportation investments with climate goals; align regional transportation, housing, and planning with climate goals; prohibit the state from funding freeway expansion through environmental justice communities; streamline transit and active transportation projects; and more.



Public Transit

What's in the law

IIJA makes historic investments in our nation's public transportation infrastructure, providing more than \$108 billion for public transit and \$102 billion for rail investments.^{26,27} Public transit funding will be used to make capital investments to expand or improve high capacity transit service, repair and upgrade rail and bus rapid transit lines, replace subway and light rail cars, meet Americans with Disabilities Act accessibility standards, fund transition to low/no emission buses, and increase safety for transit workers. IIJA also provides a set aside for rural bus grants to enhance public transit in rural areas.

Rail investments include \$66 billion to eliminate Amtrak's maintenance backlog and modernize the Northeast Amtrak Corridor, plus funding to expand intercity passenger rail service, commuter rail, Amtrak, other high-performance passenger rail, and freight rail over the next five years. These investments provide opportunities to improve rail safety and reliability and connect communities with affordable intercity mobility.²⁸

Key health and equity benefits

- Public transit provides economic, mobility, health, environmental and climate benefits, reduces household transportation expenses, and increases social connectivity.²⁹
- People who use public transit usually walk or bike to or from bus or train stops and make other short trips during the day, providing higher levels of physical activities in public transportation riders.
- People in rural areas must often travel further for necessities, but over 1 million rural households do not have access to a car.³⁰

Opportunities to leverage the health professional voice in equity in public transit investments

- Work with community-based organizations to advocate for public transportation investments that reliably connect people in low-income and communities of color to jobs, health care, food, education, parks and green space, and regional transit hubs.³¹
- Advocate to establish and use metrics to measure and track the equity and health impacts of proposed transportation investments and ensure transportation equity for disadvantaged communities including tribal nations.^{32,33}
- Fight against investment in highway and road projects that threaten to disrupt or sever low-income communities of color, such as the Interstate 526 expansion project in South Carolina.³⁴
- Urge local and regional transportation agencies to prioritize use of formula funds to benefit disadvantaged communities and to serve people already living in these communities, and to ensure robust community engagement in planning and implementation.
- Support smart land-use projects rather than sprawl in previously undeveloped areas.³⁵
- Encourage local and state transportation agencies to take advantage of rural bus set-asides.
- Seek out and participate in opportunities to comment on proposed criteria, rules, or priorities in federal allocation processes or for local and state expenditures using infrastructure funding.



Active Transportation

What's in the law

Active transportation refers to bicycling, walking, and rolling (e.g. scooters, wheelchairs) and supportive infrastructure like trails and safe bike lanes and sidewalks.³⁶ Strategies to promote active transportation and reduce injury risk include street-scale improvements such as sidewalks and bike lanes or shade, Complete Streets, safer street crossing configurations, multi-use pathways, programs like Safe Routes to School, improved road design, and slower speeds, all of which are included as funding opportunities through various programs within IIJA.^{37,38,39}

Key health and equity benefits

- Recent research shows potentially huge health benefits from active transportation because it increases physical activity and yields big reductions in cardiovascular disease, diabetes, obesity, osteoporosis, some cancers, and mental health problems.⁴⁰
- Active transportation also reduces air pollution and greenhouse gas emissions and provides more opportunities for social interaction and community cohesion, with positive impacts for mental health. Unfortunately, bicycle and pedestrian injuries are increasing at an alarming rate – especially in low-income communities and communities of color – so it is important to pair active transportation and injury risk reduction.⁴¹

Opportunities to leverage the health professional voice in active transportation investments

Partner with community-based organizations and local transportation experts to encourage and assist local and regional transportation planning agencies, Tribes, and historically underrepresented community members to collaborate to apply for funding from the Transportation Alternatives Program (TAP) for competitively awarded projects for active transportation, access to public transit, recreational trails, environmental mitigation, and historic preservation.⁴²

The new Healthy Streets program provides \$500 million to reduce flooding, improve air quality, and reduce the impacts of urban heat islands by providing grants to state, local, and tribal governments and nonprofits.⁴³ The program requires engagement with and support by community leaders and funds to plant trees and install cool and/or porous pavements.

- Expansion of tree cover including tree planting and ongoing maintenance and monitoring of trees, and repairing of storm damage to trees.
- Installation of “smart surfaces” – such as cool, reflective and/or porous pavements that help to improve air quality and reduce heat.



Active transportation and climate change

Electrification of the vehicle fleet (see sections below), fuel efficiency, and lower-carbon fuels have been the chief focus of efforts to reduce greenhouse gas emissions and air pollution from cars and trucks. But there is growing evidence that to meet transportation emissions reductions goals there must also be meaningful decreases in vehicle miles traveled (VMT). VMT refers to the average number of miles driven per capita per year, and serves as a proxy for transportation-related GHG emissions.

- Even with substantial increases in the sale of EVs, the majority of vehicles on the road in thirty years are still likely to run on gasoline due to slow fleet turnover; gas-guzzling SUVs now account for about ½ of all car sales in the U.S.^{44,45}
- Non-exhaust (e.g. brake and tire wear, road dust re-suspension) particulate matter from vehicles are an increasingly important PM exposure source.⁴⁶
- Reducing VMT also reduces traffic congestion, emissions from vehicle manufacturing, and the need for critical materials such as lithium for EV batteries.



Transportation electrification: Electric Vehicles

What's in the law

IIJA provides \$7.5 billion for electric vehicle charging infrastructure through state formula funding (\$5 billion) and competitive grants.

Switching from gas and diesel vehicles to electric vehicles is good for health and good for the climate. Electrification of the vehicle fleet will reduce greenhouse emissions from the transportation sector and reduce hazardous air pollution and smog. EVs can also significantly lower vehicle operation costs and provide financial benefits to EV owners, especially when gasoline prices are high. Because electricity is often locally produced, increased EV use will decrease our reliance on foreign nations, increase energy independence, and promote greater national security.⁴⁷ It is critical that the increased electricity demand associated with electrification be met with clean renewable energy to ensure there is not an increase in fossil fuel pollution from coal, oil, or gas-powered electricity production.⁴⁸

Key health and equity benefits

- Motor vehicles are a leading source of air pollutants that affect human health. Particulate matter is linked with asthma, chronic bronchitis, heart attacks, neurological impacts, and adverse reproductive outcomes. Vehicle emissions contribute to ground level ozone (smog) associated with asthma and other respiratory illnesses.⁴⁹
- Diesel engines are one of the largest sources of fine particulate matter, which is especially toxic; long-term exposure is a cause of lung cancer.
- Children and people with preexisting heart and lung disease are also at higher risk.
- People who live and work near major roads – disproportionately low-income people and people of color – are at increased risk of health problems from vehicle pollution.
- Recent reductions in vehicle emissions have yielded major health benefits and averted tens of thousands of deaths and hundreds of billions of dollars in healthcare costs.⁵⁰

Opportunities to leverage the health professional voice

To date, EVs have been largely out of reach for lower-income Americans, and EV charging infrastructure has been more accessible to wealthier people with home chargers. Assuring equitable access to EVs requires attention to affordability, accessibility, reliability, location, safety, and related employment and economic opportunities.⁵¹ Health professionals can work with community based and EJ organizations to encourage local and state government agencies to implement strategies to ensure that everyone can access the benefits of EVs, such as:

- Establish EV car-sharing programs in disadvantaged communities.⁵²
- Provide vouchers to replace old gas-guzzlers with EVs.
- Ensure that clean vehicle rebate programs are targeted to people with low and moderate incomes, and cap income for eligibility.



Transportation electrification: Electric School Buses

What's in the law

IIJA provides \$5 billion dollars for states, school districts, tribes, and bus operators to purchase electric or low-emissions (hybrid, hydrogen, natural gas, or propane) school buses.

Key Health and Equity Benefits

- Millions of children ride school buses every day, 95 percent of which are diesel-powered. Children are especially vulnerable to the impacts of diesel exhaust that is associated with increases in asthma attacks, premature deaths, and cancer.⁵³ That's why the American Lung Association advocated for including \$20 billion to fund electrification of ⅓ of US school buses.
- Retrofitting diesel school buses is not only beneficial for students' health but also improves academic outcomes. Researchers in Georgia, for example, found significant improvements in respiratory health, especially in elementary age students, in districts that electrified their school buses.⁵⁴ They also demonstrated a significant increase in English test scores.

Opportunities to leverage the health professional voice:

- Work with local school districts, school bus companies, utilities, and local governments to apply for school bus electrification funds.
 - Push hard to make sure that 100% of these dollars go to electric school buses.
- Prioritize low income and communities of color – especially those with documented high rates of asthma and related school absences – for school bus electrification.
- Push state governments to pass bus fleet electrification legislation, such as New York state's legislation to electrify its school bus fleet by 2035.
- Encourage state leaders to phase out the sale of gas-powered vehicles; California's governor, for example, issued an executive order to require that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035.⁵⁵
- Urge the use of union electricians and union-made domestically manufactured buses and charging infrastructure.⁵⁶



Ports

What's in the law

The infrastructure law provides almost \$17 billion in funding for important programs to reduce air and water pollution from ports, inland ports, waterways, and ports of entry through electrification of port equipment and port-related trucks, efficiency programs to reduce emissions from idling-related exhaust, and port resilience in the face of climate impacts.

Key health and equity benefits

Ports are the source of significant climate and air pollution from diesel equipment used in port operations, trucks moving goods to and from ports, and diesel-powered marine vessels.

- Near-port communities are most often low-income communities of color and suffer disproportionate impacts from port operations including high child asthma rates.⁵⁷
- Nearly 40 million people living or working adjacent to ports in the U.S. face health risks including premature mortality and increased incidence of respiratory and cardiovascular disease.⁵⁸
- Port operations also significantly impact water quality and nearby marine life, potentially disrupting important sources of food especially for indigenous communities.⁵⁹

Opportunities to leverage the health professional voice

- Work to educate port authorities, local governments, and state governments about available funding and the health benefits of electrification.
- Utilize the EPA's Community-Port Collaboration Toolkit to educate communities and policymakers about the environmental justice harms of ports and the benefits of addressing port pollution.⁶⁰
- Engage with other health organizations like Utah Health Professionals for Healthy Environment that are highlighting the health threats from inland ports.⁶¹



Additional Opportunities in the Transportation Sector

Health professionals can partner with community based organizations to urge local governments to apply directly to DOT for funding for a Reconnecting Communities Pilot Program to address the legacy of racism in highway construction by reconnecting communities that were divided by highways.⁶² Other opportunities include the [Carbon Reduction Program](#), [Rebuilding American Infrastructure Sustainably and Equitably \(RAISE\)](#), and [Congestion Mitigation Program](#).

Zeroing in on Healthy Air (from the American Lung Association)

“The shift to zero-emission transportation and non-combustion electricity generation could yield major health benefits throughout the nation in the coming decades. Cumulatively, the national benefits of transitioning away from combustion in the transportation sector toward 100 percent zero-emission sales and a non-combustion electricity generation sector could generate over \$1.2 trillion in health benefits across the United States between 2020 and 2050. These benefits include approximately 110,000 lives saved, over 2.7 million asthma attacks avoided (among those aged 6-18 years), 13.4 million lost work days and a wider range of other negative health impacts avoided due to cleaner air. In addition to these health benefits, this analysis found that over \$1.7 trillion in global climate benefits could be achieved with a reduction of over 24 billion metric tons of GHGs by mid-century.”



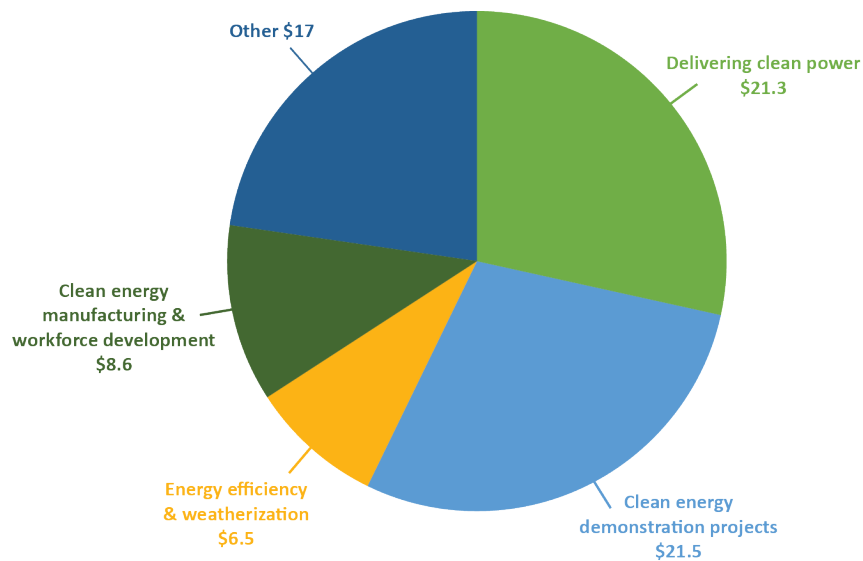
Clean Energy and Energy Efficiency

What's in the law?

The IIJA makes nearly \$75 billion in historic investments in clean energy and energy efficiency, including energy efficiency, weatherization retrofits, expansion of the electricity grid for renewables, grid reliability and resilience, clean energy manufacturing, battery storage, transmission, expansion of the clean energy workforce, and more.⁶³ The law makes important changes in Federal Energy Regulatory Commission (FERC) authority to help streamline transmission and grid projects that enable connection of renewables to the grid, and establishes important labor protections for energy project workers.⁶⁴ IIJA also provides support for existing nuclear energy plants and research into advanced nuclear technologies.

Clean energy and energy efficiency must go hand in hand to achieve maximal climate and health benefits of vehicle and building electrification. Electrification will require more electricity, but if that electricity comes from dirty fossil fuels there will still be significant climate and health harms. Energy efficiency and weatherization can reduce overall demand for electricity, improving health during the transition to fully clean energy production.

FIGURE 3: Clean energy and energy efficiency (in billions)



Key health and equity benefits

Increasing energy efficiency and transitioning to renewable energy will reduce pollution and result in significant and nearly immediate health benefits. (For more detail, see [Issue Brief on Clean Energy Standards](#)).

- Electricity generation from fossil fuels is a major source of air pollution and water pollution.⁶⁵
- These pollutants cause and aggravate health problems, including asthma, lung cancer, heart disease, respiratory infections, stroke, neurological disease, chronic obstructive pulmonary disease, adverse pregnancy outcomes, and adverse impacts to children’s cognitive development.^{66,67,68}
- Particulate matter from electricity generation with fossil fuel in 2014 led to an estimated 16,000 premature deaths in the United States.⁶⁹
- The health impacts of fossil fuel electricity generation disproportionately impact communities of color and low-income communities, due largely to their greater risk of proximity to fossil fuel facilities.^{70,71} Switching to clean renewable energy and replacing dirty fossil fuel drilling, refining, and generation facilities will quickly reduce health-harming air pollution in these communities and reduce health disparities from chronic conditions like asthma and heart disease.
- While natural gas facilities release less carbon dioxide than coal plants, they still produce significant air pollution that directly harms communities.⁷²
- Existing renewable energy standards if fully implemented in just ten states would create \$4.7 billion in health benefits by 2030 solely by decreasing particulate matter pollution.⁷³
- Millions of low-income households face a high energy burden; spending a large proportion of household income on energy costs takes money away from other essentials such as healthy food.⁷⁴ But a low-income households – especially renters – lag behind in attaining the cost benefits of solar and home weatherization.⁷⁵

Opportunities to leverage the health professional voice

- Educate policymakers and the public about the health harms of fossil fuel energy and the health benefits of clean renewable energy and energy efficiency.
- Encourage clinics and hospitals to establish systems to refer patients to local [Weatherization Assistance Programs](#) and [Low Income Heating and Energy Assistance](#).⁷⁶
- Educate your local and state weatherization programs about strategies to fully integrate weatherization and health, for example through addressing mold and pests.⁷⁷
- Engage with school boards and local government to help apply for funding available for clean energy and energy efficiency at schools.
- Partner with communities, cities, states, U.S. territories, and Indian tribes to apply for State Energy Program grants to develop and implement clean energy programs and projects.
- Advocate for utilities to increase their investments in transmission lines and grid infrastructure, a key barrier to bringing more clean energy onto the grid.



Carbon Management

IIJA provides the largest single investment in “carbon management” in history over \$12 billion.⁷⁸ “Carbon management” refers to the capture, containment, and storage of carbon dioxide (CCS) from power and industrial sector emissions and legacy emissions in the atmosphere.⁷⁹ (The term is not generally used for carbon sequestration through nature-based solutions such as tree planting).

A recent major IPCC report suggests that removing carbon dioxide from the atmosphere is essential to meet international climate goals for achieving net-zero carbon emissions.⁸⁰ However, the use of CCS is controversial because of concerns that:

- Investments in CCS to make the technologies more commercially feasible will distract from efforts to rapidly expand renewable energy.
- A very large percent of carbon captured to date has been used to extract more oil from existing wells.⁸¹
- CCS deployment may place additional health burdens on already impacted communities.⁸²
- Use of CCS to increase fossil fuel production impedes our ability to move as quickly as possible to transition to clean energy and thus may be a “false solution”.⁸³
- State legislators around the nation are considering legislation to enable greater use of CCS.

Key health and equity concerns

- Facilities that use CCS to capture CO₂ also emit an array of dangerous air pollutants that CCS does not capture and may actually increase.⁸⁴
- CCS equipment, transport, and storage can have significant local health impacts.

Opportunities to leverage the health professional voice

Health professionals can work with community-based organizations to advocate for protections to:

- Ensure that facilities that receive infrastructure dollars for CCS also implement best available technologies to reduce emissions of toxic air contaminants and priority air pollutants alongside CO₂ emissions reductions.
- Require sensitive CO₂ leak detection in CO₂ transportation and storage facilities.
- Prohibit use of CCS to improve or extract fossil fuels, for example through enhanced oil recovery.



Clean Water and Health

What's in the law

About one-half of the roughly \$50 billion for water infrastructure in IIJA is divided between the Clean Water and Drinking Water State Revolving Loan Fund programs. A recent Bipartisan Infrastructure Law SRF Implementation Memorandum provides guidance to states on a broadened definition of disadvantaged communities.⁸⁵ IIJA also funds states to provide technical assistance to low-capacity communities to enhance their access to these funds.⁸⁶

In addition to the revolving funds, IIJA provides funding for water storage, groundwater storage, water conveyance projects, water recycling and reuse projects, grants for small and disadvantaged communities to enhance clean drinking water access, and funding to replace lead service lines and to address PFAS and other emerging contaminants in drinking water.⁸⁷

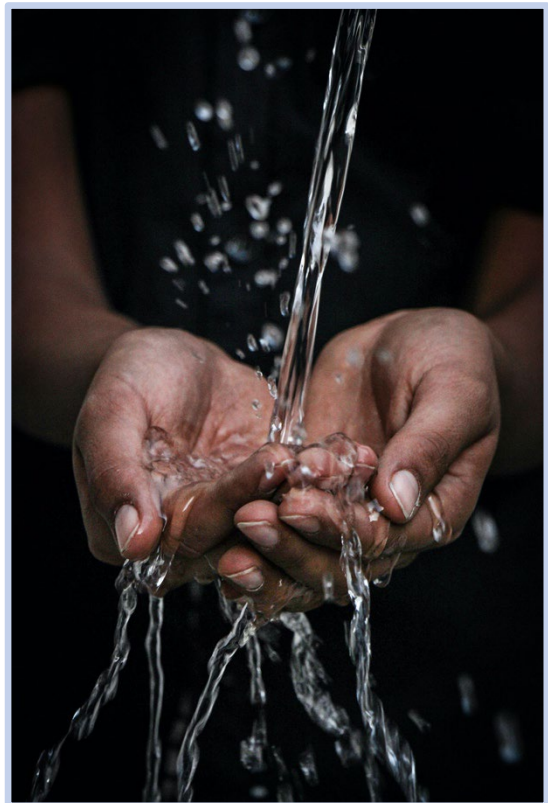
Key health and equity benefits

Everyone needs clean water to drink, cook, grow food, and for sanitation and hygiene. Yet more than two million people in the U.S. today live without running water, basic indoor plumbing, or adequate sanitation; millions more live in communities with aging, inadequate water and sewage infrastructure that increases risks of severe flooding, water contamination, and loss of water supply in the face of climate change.⁸⁸ These risks are increasing due to climate-related extreme weather events and drought. Water affordability has also become increasingly challenging for low-income households across the nation.⁸⁹ From a health perspective, it is critical that IIJA water funding flows primarily to those communities most in need.⁹⁰ Only \$25 million a year is specifically apportioned as grants for small and disadvantaged communities.⁹¹

Opportunities to leverage the health professional voice

Health professionals can partner with community-based organizations and water policy experts to advocate for equitable implementation of State Revolving Fund clean water and drinking water programs.⁹² For example:

- Ensure that the state definition of disadvantaged communities includes historic injustices in community water investment.
- Support robust outreach and technical assistance especially to small and rural jurisdictions.
- Make sure funding criteria for water incorporate considerations of climate resilience and climate risks.



Climate Resilience

What's in the bill

Climate resilience is “the capacity of a community to anticipate, plan for and mitigate the risks – and seize the opportunities – associated with environmental and social change” brought about by climate change.⁹³

Climate resilience funding provides opportunities to create healthier community environments, build and improve infrastructure to reduce climate risks and redress historic harms, and promote health and well-being.⁹⁴ IJA provides over \$47 billion – much of which will be awarded through competitive grants to local, state and Tribal governments – for climate resilience efforts to protect communities against climate risks such as wildfires, floods, and droughts, wildfire prevention, hazard mitigation, disaster recovery, and disaster risk reduction. It also funds projects to help address flooding and shoreline erosion and allows investments in vulnerable areas for targeted disaster risk reduction.

Importantly, funding for community climate resilience can help address persistent health inequities in rates of chronic illness (such as cardiovascular disease and diabetes) driven by social determinants of health. Communities of color are more likely to be in areas prone to natural disasters and less likely to have access to clean and safe drinking water and sanitation systems.

Key health and equity benefits

- Communities across the nation are already experiencing the health and mental health impacts of climate-related extreme weather events.⁹⁵ The severity of disaster exposure correlates as a dose-response relationship with development of post-traumatic stress disorder (i.e., a higher level of flooding is correlated with more PTSD symptoms). Better preparing homes and communities for natural disaster risks can mitigate this danger.
- Research shows that for every dollar spent on disaster risk reduction, society saves six dollars by saving lives and by reducing nonfatal injuries and cases of PTSD.⁹⁶
- Community climate resilience projects have the dual benefit of disaster risk reduction while creating infrastructure to improve mental and physical health and social cohesion. Parks and ecosystem restoration projects can reduce flooding risks, add green spaces for communities, and promote time outdoors which has proven mental and physical health benefits.⁹⁷

Opportunities to leverage the health professional voice

Health professionals can work with community advocates, environmental organizations, and local academics to:

- Urge local governments to apply for competitive grant funding for risk reduction/hazard mitigation projects that prioritize the needs of and provide health and equity benefits for disadvantaged and impacted communities, and provide data to support implementation in disadvantaged communities.
- Provide stories about past disaster impacts to bolster grant applications.
- Work with local academics to help use data to support applications for grant funding, including through IJA-funded enhanced NOAA data on flooding and other climate-related impacts.⁹⁸
- Encourage the use of green infrastructure and nature-based solutions wherever feasible to enhance the health benefits of hazard mitigation programs.^{99,100}



- Promote local policies that integrate data, measures, and opportunities for social cohesion.¹⁰¹ Social cohesion has been shown to improve community resilience in the face of climate disasters. Policies that map climate-vulnerable and low-income communities to target resources and foster connections between residents and organizations can improve opportunities to respond to disasters immediately and access resources for recovery in the long-term.

The American Society of Civil Engineers gives our nation’s wastewater infrastructure a grade of D+. Low-income communities and communities of color are more likely to have old and overburdened sewage systems that become easily overwhelmed by even light rain. With increased flooding events driven by climate change, the effects will be more extreme and occur more often – for example, households in areas with crumbling wastewater infrastructure often have to invest in equipment to manually pump out raw human sewage that backs up into their toilets, sinks, and tubs.¹⁰² Funding from IIJA to improve wastewater infrastructure targeted in low-income communities and communities of color can protect households from the compounded harms of climate change driven by historical underfunding in infrastructure that exposes these communities to higher levels of pollution.

Northwest Resiliency Park in Hoboken, New Jersey, is a model for improving community climate resilience in the face of worsening natural hazards like floods.¹⁰³ The area was chronically flooded, with Hurricane Sandy demonstrating how expensive cleanup and recovery after flooding events could be. The city utilized FEMA funds through BRIC to build a 5-acre park with a one-million-gallon underground storage tank to collect rainwater, a 50,000 gallon underground cistern to collect and reuse rainwater for irrigation, and trees and storm water gardens.¹⁰⁴ The expected benefit is a 90% reduction in sewer overflows. The park also features a playground, athletic fields, a basketball court, ice-skating rink, and fitness loop, providing residents and visitors a green space for physical activity and improved social cohesion.



Additional Climate and Environmental Health Funding

The IJA includes a wide variety of other programs and funding that have ramifications for climate and health.

Methane

Methane is a climate “super-pollutant”: While carbon dioxide is more abundant and longer-lived, methane is far more effective at trapping heat while it lasts.¹⁰⁵ Over the first two decades after its release, methane is more than 80 times more potent than carbon dioxide in terms of warming the climate.

IJA funds a new \$4.7 billion program to plug, remediate, and restore polluted and dangerous orphan well sites across the country to reduce methane leaks.¹⁰⁶ Orphaned wells can emit oil, or methane, and pose a risk to the health of neighboring communities by contaminating groundwater and releasing toxic air pollutants such as naturally occurring radioactive materials, metals, and other volatile organic compounds such as benzene.¹⁰⁷

Abandoned Mine Land Reclamation Program

IJA provides nearly \$725 million in funding for states and the Navajo Nation to reclaim abandoned coal mine lands and provide good-paying jobs in mining communities. Abandoned mines pose serious risks due to mine shaft cave-ins, explosive dangers, and exposure to lethal toxic gases.¹⁰⁸

Wildfires

Wildfires have many acute and chronic effects on human health. They can cause respiratory and cardiovascular symptoms, burns, trauma, mental health effects, reproductive and immunological disorders, and a wide array of outcomes associated with social and financial disruption. The IJA designates \$3.3 billion to reduce the risk of wildfires including through increased pay for wildland firefighters, research, and land management practices such as prescribed fires, construction of fuel breaks, and thinning/removal operations and programs to aid communities and tribal nations with forest restoration.¹⁰⁹



Critical Opportunities for Further Climate Progress

While the IJA offers important opportunities to address the climate crisis, far more targeted measures are required to meet U.S. emissions reductions goals of at least 50% reductions by 2030. It's estimated that this bill – implemented well – may get us less than 10% closer to that goal, whereas another \$550 billion in climate investments could get us most of the way. The [recent IPCC reports](#) were a clarion call for more urgent and transformative actions. The federal budget reconciliation process provides one important opportunity to move forward with robust climate action. Health professionals can use their trusted voices to let our elected representatives and government officials know that funding for urgent climate action is required to protect the health of our communities and our children. Important investments under consideration include:

- Expanded and long-term tax credits for solar, wind, energy storage, hydropower, and other clean energy, which will help level the playing field against fossil fuels. Refundable tax credits will help low-income and disadvantaged communities access the benefits.
- A fee on methane emissions which will help companies reduce their emissions of this potent greenhouse gas.
- Expanded tax credits for electric vehicles, efficient home appliances, and clean technologies like heat pumps, which will substantially accelerate the transition to electrification.
- A federal jobs program referred to as the Civilian Climate Corps.
- Environmental and Climate Justice Block grants available for communities.
- Substantial funding for a Clean Energy and Sustainability Accelerator program that directly funds new projects.
- Funding for rural communities and sustainable agriculture programs.
- Additional funding to decarbonize heavy trucks and equipment.



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