

A

GREEN STIMULUS

FOR

K-12 SCHOOLS

March 13, 2021, Philadelphia





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The **climate + community project (ccp)** is a network of social scientists, lawyers, and policy experts conducting cutting-edge qualitative and quantitative research who are committed to supporting a justice-based Green New Deal. @cpluscp climateandcommunity.org

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EXECUTIVE SUMMARY

A Build It Back Better Stimulus is an essential opportunity to deliver a Green Stimulus for K-12 Schools. This stimulus would align directly with the Biden administration's goals of rescuing schools from the devastation of the COVID-19 pandemic while creating jobs, delivering racial equity, improving health outcomes, slashing carbon emissions, and improving school resilience to extreme weather all at the same time; and it would help the Biden administration target 40 percent of its climate funding to disadvantaged communities. The massive public investments called for here would yield economic, social, and climate benefits for decades to come.

We propose \$1.16 trillion in new funding over ten years:

- **\$250 billion over ten years for Climate Capital Facilities Grants** to fund healthy, green, climate-friendly retrofits for the K-12 public school facilities in greatest need (including short-term measures to help schools reopen safely during the pandemic)
- **\$250 billion over ten years for Resource Block Grants** to fund expanded staff, social services, training, and professional development in public schools with the greatest need; this would include \$100 million in Educational Equity Planning Grants to jumpstart the process of eliminating intra-region education inequities in school funding
- **\$66 billion annually in Expanded Title I and IDEA Annual Funding** to sustain operational support from the Resource Block Grants.

The Climate Capital Facilities Grants will create 350,000 jobs per year, over ten years in all jobs categories, including over 100,000 on-site construction and maintenance jobs per year, over ten years. Our estimate of projected place-based spending, based on our proposal's equity criteria, finds that on-site jobs would be evenly distributed between red states and blue states (based on 2020 electoral college vote), with 51,100 going to blue states and 49,400 to red states.

The Climate Capital Facilities Grants would eliminate all carbon emissions from those schools. Once the retrofits are complete, they would deliver an annual saving of at least 29 million tons of CO₂e, the equivalent of taking six million cars off the road.

The Resource Block Grants will fund well-resourced classrooms and school facilities across the country, supporting the creation of 336,000 new jobs in schools over ten years. In schools with the greatest need, these block grants can support hiring educators to lower teacher student ratios to 1:15 for K-8 schools and 1:20 for grade 9-12 schools. We will reach these ratios by hiring additional classroom teachers (a head and associate teacher for all pre-K–grade 3 classrooms) as well as learning specialists, including math and reading specialists and afterschool staff, for all pre-K–grade 12 classrooms. The expansion of the educator pipeline, along with resourcing development and operations to retain existing educators, will address the forecasted educator shortages.

Program Details

CLIMATE CAPITAL FACILITIES GRANTS

The federal government will offer states, Tribes, territories, Washington DC, and school districts infrastructure block grants, technical assistance, and other resources to accommodate healthy, green, and climate-friendly retrofits of public school facilities. These retrofits would remove all health harms (like asbestos, mold, and lead), raise air circulation to the highest standards, fully electrify building systems, add solar panels and batteries where feasible, and increase energy efficiency. Retrofits would use the healthiest available materials and ensure that all students, teachers, and staff have a safe, comfortable learning environment year-round. Immediate measures would prioritize reopening safely as we exit the pandemic. **We estimate that at this level, Climate Capital Facilities Grants would permit the complete decarbonization of one-third of the country's K-12 public schools, without any additional financing burdens on them.** These grants should target the schools with the least capacity to fund or finance these retrofits themselves.

Block grant awardees must submit a values statement from the community that outlines a set of priorities to address environmental, economic, and educational equity in the building retrofit planning, construction, and operations. **Statements should include a commitment to both high road labor standards and local hiring from BIPOC-owned-and-majority-employed businesses, nonprofits, and cooperatives, with annual benchmarks.** All retrofit work must pay union-level wages. Block grants can also go toward green jobs training for local residents. States and school districts will not be required to match funds.

RESOURCE BLOCK GRANTS

The federal government will offer school districts and schools Resource Block Grants, technical assistance, and other resources to accommodate the expansion of staff and social service programming at public schools. To address decades of funding inequity from federal housing policies and state education funding, the Resource Block Grants will prioritize schools located in the bottom third of census tracts with the greatest levels of poverty. **Over ten years, the \$250 billion in Resource Block Grants would create 336,000 direct jobs in school facilities and induce approximately 437,000 indirect jobs.** This is about 9.7 new staff members for about 33,000 schools. Resource Block Grants would permit the hiring of staff to yield staffing levels for teachers, nurses, social

workers, and other essential school workers that would improve educational equity in schools of greatest need.

Resource Block Grants will address resource gaps in schools that lack the capacity to serve the comprehensive needs of students. In addition to expanding hiring and concomitant programmatic resources to support this hiring, Resource Block Grants can provide funding to train new social service providers and teachers through the professionalization of teachers aides and other classroom paraprofessionals. Resource Block Grants will also address the immediate social and academic gaps experienced during the COVID-19 pandemic, by expanding hiring to accommodate summer class sessions and more robust virtual learning options to accommodate all students.

Block grant awardees must submit a values statement from the community that outlines a set of priorities to address environmental, economic, and educational equity in the administration of the Resource Block Grant. Block grants can address issues of school climate, mental and physical health, and staff and educator turnover and retention, as well as the development and replication of community-driven curriculums. Statements should include a commitment to local hiring from BIPOC-owned-and-majority-employed businesses, nonprofits, and cooperatives, with annual benchmarks. All jobs funded by these grants must pay union-level wages. States and school districts will not be required to match funds.

This budget line would also include Education Equity Planning Grants, to lay the groundwork for eliminating intra-region education inequities by facilitating an inclusive, regional equity planning process and providing federal funds to the schools doing the most to advance equity within their regions. The program will be modeled after HUD's Sustainable Communities Regional Planning Grants program. The planning grants would create a guiding document to establish the origins of educational inequity in the region (as defined by at least three contingent school districts with a per-pupil spending ratio disparity greater than 1.5), create a plan to address this inequity, and establish incentives for schools and districts that affirmed increased intra-region equity over time in the form of a permanent equity grant. This planning grant will serve as a pilot for a broader initiative with HUD.

EXPANDED TITLE I AND IDEA FUNDING

We propose quadrupling annual Title I funding, from \$14 billion to \$60 billion, for schools and districts with students living in poverty, and increasing funding for IDEA (the Individuals with Disabilities Education Act) for students with disabilities from \$13 billion to \$33 billion.

These increases will help sustain the investments from the Resource Block Grants. The following conditions need to be applied to the increase in Title I funding, which may not necessarily increase funding to students in the greatest need given the federalist distribution of funding and archaic federal funding formulas. We recommend three changes:

- 1) increasing the proportion of dollars for districts (not just the amount available) with concentrations of poor students
- 2) aiming at an average \$5,000 Title I per pupil spending nationwide
- 3) increasing proportion of Education Finance Incentive Grants to compensate districts located in states with inequitable funding formulas or low equity between districts.

FUNDING CRITERIA FOR BLOCK GRANTS

All school districts and schools will be eligible to apply for facility and Resource Block Grants. Regional districts that create regional equity plans are eligible for annual equity awards. However, the ***A Green Stimulus for K-12 Schools will prioritize the following districts and schools in the first round of awards:*** districts with median poverty rates in the bottom third of the nation.

EQUITY BENEFITS

A Green Stimulus for K-12 Schools will deliver educational equity through prioritizing the most vulnerable school districts and providing **1) direct Climate Capital Facilities Grants to districts for building retrofit and infrastructure modernization, which in addition to health and climate benefits will improve student achievement and teacher retention; and 2) investments in school human resources to directly address years of systemic disinvestment in high-need, low-resource school districts.**

Educational outcomes in the United States differ along class, race, and place lines. Suburban schools perform better than urban and rural districts; majority white schools perform better than majority Black, Brown, or tribal schools; and wealthier school districts outperform their poorer counterparts. While property taxes are often at the crux of this entire series of inequities, local governance and control are often critical to creating sustainable change.

Educational equity will only be realized when local communities (including educators, students, caregivers, and community members) take an active and participatory role in local school governance. This can range from involvement on the school board (which often dictates local spending, procurement, and curriculum) to a role on an advisory committee that will oversee how

grant monies are spent. Educational equity is affirmed by the **stability and growth of the educator labor force and school support staff; prioritization of hiring from the local community; increased and legitimate community control of grant awards; and programmatic interventions.**

Research demonstrates the link between facility conditions and educational outcomes and school climate. Improved educational outcomes from the investment in green retrofits and zero energy new builds include:

- Improved teacher retention rates
- Improved student and teacher attendance rates
- Improved student four-year graduation rates

Similarly, the investment in human resources that would translate to increased educational equity includes, rooted in a community school model:

- Establishment and funding of community and caregiver engagement offices (see FACE and other models)
- Partnerships with local community organizations and social service providers to expand the scale and scope of on-site services
- Incentives for community and caregiver representation on local school boards
- Prioritization of local curriculums that affirm underlying principles of *A Green Stimulus for K-12 Schools* (educational and health equity, economic equity, educational equity)
- Creation of sustainable pathways in the classroom (for teacher aid and paraprofessionals to convert to full-time teachers)
- Creation of unionized jobs in all categories (from educators to mental health professionals)
- Fiscal and technical support of trauma-informed learning models and professional development
- Decarceration of school facilities and curriculums
Universal establishment of pre-K instruction and classrooms
- Educational equity grants that work to decouple school funding and budgets from local property taxes

CLIMATE-FRIENDLY RETROFITS

Short-term, high-priority retrofit actions to protect student health and safety in the age of COVID-19 include deep inspections of asbestos, lead, and mold, cleaning and removing insulation and walls with contamination, and then installing HEPA air filters to sustain healthier air. Then we must repair all leaks in plumbing fixtures and upgrade them with touchless, low-flow fixtures to reduce wastewater and limit cross-contamination in spreading COVID-19.

ADDITIONAL NEEDS FOR SAFE SCHOOL FACILITY REOPENINGS

Over the last year, we have learned from quantitative and qualitative research on the experiences of districts, caregivers, and educators who are teaching and learning during the pandemic. We believe that new understandings about virus transmission and improved vaccine rollout projections warrant **new school building reopening plans from school officials made in collaboration with district-level staff, government officials, and school board members, as well as school educators, families, staff, and youth. These planning meetings should include opportunities for public comment that accommodate those with disabilities, those who speak other languages, or those without access to the internet.** To mitigate in-person learning risks and promote robust remote learning for those who require it, the following **PPE, human resources, professional development, hardware, and software** are suggested:

PPE, VACCINATION, TESTING + DATA TRANSPARENCY

- All educators and in-person school facility staff (including part-time or contract workers) must receive priority in all local vaccination rollout plans before facilities can reopen
- Districts and localities must partner with local health facilities or FEMA sites to accommodate these workers as part of the facility reopening plan.
- Educators who are teaching in-person, particularly for lower grades, require daily (double) masks or N95 medical grade masks to ensure maximum protection against long-term and new COVID variants.
- Classrooms, offices, hallways (including stairwells), and bathrooms must continue to have adequate ventilation (HEPA air filters) that are routinely maintained and inspected.
- All bathrooms and kitchens must be inspected and maintained with access to **hot,**

running water and soap/hand sanitizer.

- Access to clean, filtered water for facility occupants must be available via hydration stations or through tested and maintained, de-leaded, hands-free water fountains
- Rapid testing and testing frequency must be decided with the local stakeholder committee—depending on vaccination and infection rates, different types of testing may be appropriate.
- All information (daily tests, vaccinations, facility maintenance reports including ventilation tests) from the above section must be posted to a **publicly accessible dashboard** that archives information for at least **one year.**

HUMAN RESOURCES

- To properly accommodate distancing, hybrid, and ongoing virtual instruction, districts must immediately begin hiring and training educators, counselors, nurses, and mental health specialists. This includes partnering with local higher education institutions and even high schools to strengthen pipelines and apprenticeships for the expansion of this workforce.
- Districts must support paid sick leave for staff and educators who are at high-risk or cohabitate with someone who is at high risk.
- Districts must provide free mental health services for staff and educators who are experiencing high burnout and fatigue.
- Districts must provide daily prep/free periods to accommodate **random COVID-19 testing** and increased classroom transition time/shortened work days.

PROFESSIONAL DEVELOPMENT

- Districts must hire school-based and community (learning center) IT staff to work with students, educators, staff, and caregivers on IT problems.
- **Trauma-informed** learning models must be developed in concert with the facility reopening plans and implemented across all curriculums to account for the past year.
- Tenure requirements for early career teachers must include extensions and waivers

to accommodate the inequitable year.

FACILITY MODIFICATIONS; HARDWARE AND SOFTWARE

- In addition to water and ventilation checks, facilities that are required to remediate asbestos and lead must do so before they are allowed to reopen for in-person learning.
- Data from these modifications and inspections should be made available on a publicly accessible dashboard for at least **one year**.
- All facilities should be inspected and post room occupancy limits (to ensure six feet of distance, desk to desk) on the dashboard.
- Hallways, doors, and seats must have proper direction/flow markings before reopening.
- Rooms, hallways, and walls must be decluttered and deep cleaned before facility reopening
- Kitchens and cafeterias must have proper ventilation, direction/flow markings, and seating arranged for proper distancing.
- Bathrooms must have proper ventilation, direction/flow markings, touchless faucets, and handles.
- All households in the district should have access to free high-speed wireless/wired Internet that is subsidized by the local governing authority.
- All educators, staff, and students should have their own personal computing device that is loaded with the required standardized software and have the capacity to connect to the local high-speed internet.
- Facilities must remain open during the summer to accommodate additional learning opportunities for students in need.

Methodological Notes

JOB CREATION

Overall estimates for job creation reflect total expected jobs, based on \$250 billion in grants for green retrofits. This includes jobs directly created by the spending, indirect jobs in industries supplying intermediate goods such as building materials, and induced jobs from these newly hired workers spending money into the economy.

Jobs estimates were generated from an Input-Output model with multipliers derived by the Employment Policy Institute from Bureau of Labor Statistics (BLS) data.¹ The Bill-of-Goods method was used to generate jobs, which is the preferred method for using input-output modeling to estimate the impact of construction spending.²

On-site construction jobs were generated from the estimated proportion of the \$250 billion going directly to the sector from the school retrofit grants. The breakdowns of these jobs by state, congressional district, and city are based on the locations of the roughly 35,000 schools targeted for these grants.

The Bill-of-Goods method for Input-Output modeling requires a breakdown of spending across sectors of the economy, so that appropriate multipliers can be applied to each segment of the spending. The allocation used here was created from engineering reports and studies of green retrofits for schools and other large buildings, and we checked against other work on using Input-Output models to estimate the impacts of green retrofits.³

Teacher staffing needs were estimated from National Center for Education Statistics (NCES) data. The School-level Membership and Staff tables for 2018-2019 were joined to get student counts from the Membership table and teacher counts from the staff table. Schools were removed from the table if they were missing values for number of students or teachers or showed only one or fewer students or teachers at the school. Upper outliers, which showed student-to-teacher ratios above 100, were also trimmed. Many of these upper outliers were schools and learning programs that offered education other than full-time, in-person education for K-12 students. Trimming these outliers brought down the number of schools in our “target universe” from 33,488 to 30,660 schools.

Target student-to-teacher ratios were 12:1 for grades K-8 and 15:1 for grades 9-12. Target ratios for each school were calculated as the weighted average of these ratios, where weights were the number of students in each grade range

at the each school. Students in unmarked or unspecified grade levels were included and given a 15:1 target ratio.

Additional teachers for each school were calculated based on the difference between the existing and the target student-to-teacher ratio. National staffing needs were the total across all schools, after an inflation ratio was applied to account for schools for which data was missing. New staffing needs in these missing rows was assumed to be the average of those at schools with better data when calculating national averages.

EMISSIONS REDUCTIONS

Estimates for CO₂e emission reductions are based on analysis of the 2012 Commercial Buildings Energy Consumption Survey, from the US Energy Information Administration. This survey provided an estimate for total energy consumption by source for all education buildings (Table C1). Energy usage estimates were then scaled to the one-third of schools targeted for grants in our proposal. This provided energy consumption estimates by energy type (natural gas, oil, electricity, etc.). This method does not account for methane leakages in gas infrastructure, as the EPA does not yet provide standardized estimates. But it is virtually certain that full electrification represents significant savings on this front as well. Carbon conversion factors were then applied to energy consumption by fuel type to yield the estimate for carbon savings.⁴

1. Economic Policy Institute. “Updated Employment Multipliers for the U.S. Economy,” January 23, 2019, <https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/>

2. BEA (Bureau of Economic Analysis). “Regional Input-Output Modeling System (RIMS II) User’s Guide,” December 2013. https://www.bea.gov/sites/default/files/methodologies/RIMSII_User_Guide.pdf

3. US Department of Energy. *Advanced Energy Retrofit Guide: Practical Ways to Improve Energy Performance K-12 Schools*, December 2013, <https://www.nrel.gov/docs/fy14osti/60913.pdf>; STV AECOM PNA. Physical Needs Assessment 2017, March 25, 2018, <https://www1.nyc.gov/assets/nycha/downloads/pdf/PNA%202017.pdf>; Heidi Garrett-Peltier, *Employment Estimates for Energy Efficiency Retrofits of Commercial Buildings*, June 2011, http://www.peri.umass.edu/fileadmin/pdf/research_brief/PERI_USGBC_Research_Brief.pdf; Heidi Garrett-Peltier, “Green versus Brown: Comparing the Employment Impacts of Energy Efficiency, Renewable Energy, and Fossil Fuels Using an Input-Output Model,” *Economic Modeling* 61 (2017), <https://www.sciencedirect.com/science/article/abs/pii/S026499931630709X>

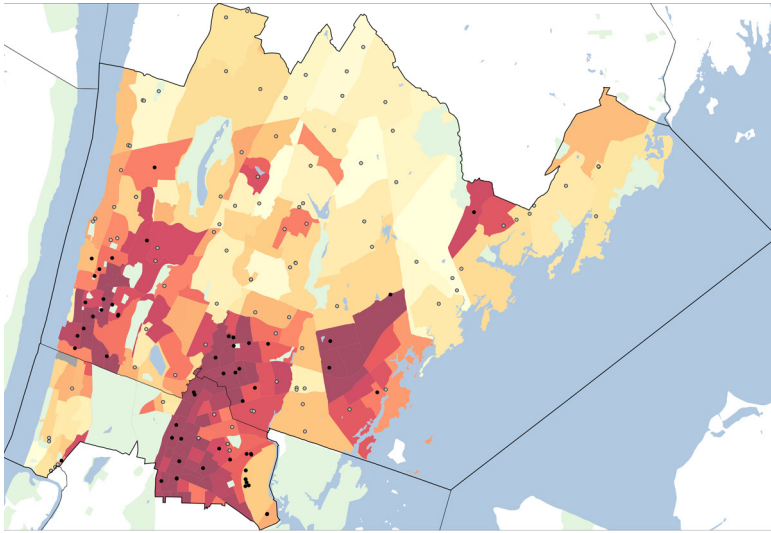
4. Factors were calculated from <https://www.epa.gov/energy/green-house-gases-equivalencies-calculator-calculations-and-references> and <https://portfoliomanager.energystar.gov/pdf/reference/Emissions.pdf>

APPENDIX: ON-SITE JOB CONSTRUCTION BY STATE AND TERRITORY

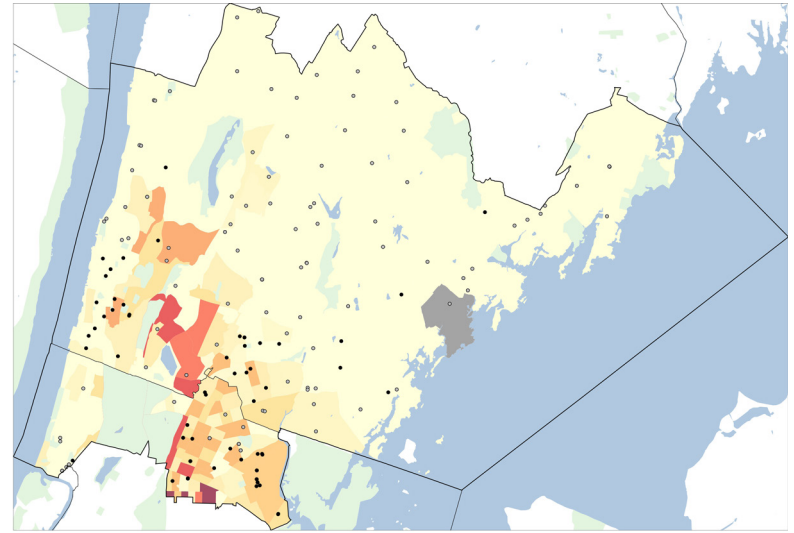
STATE + TERRITORY	JOBS	STATE + TERRITORY	JOBS
Alabama	1,800	Montana	380
Alaska	770	Nebraska	470
Arizona	3,460	Nevada	960
Arkansas	1,400	New Hampshire	70
California	14,560	New Jersey	1,810
Colorado	1,230	New Mexico	1,670
Connecticut	650	New York	4,860
Delaware	210	North Carolina	3,450
District of Columbia	360	North Dakota	160
Florida	5,740	Ohio	2,670
Georgia	2,930	Oklahoma	2,330
Hawaii	260	Oregon	1,380
Idaho	570	Pennsylvania	1,580
Illinois	3,460	Rhode Island	280
Indiana	1,330	South Carolina	1,720
Iowa	420	South Dakota	380
Kansas	700	Tennessee	2,030
Kentucky	1,850	Texas	13,910
Louisiana	2,080	Utah	500
Maine	270	Vermont	80
Maryland	820	Virginia	1,280
Massachusetts	1,040	Washington	2,200
Michigan	3,130	West Virginia	570
Minnesota	1,530	Wisconsin	1,040
Mississippi	1,940	Wyoming	120
Missouri	2,100	Puerto Rico	1,110

Estimated annual on-site construction jobs per state, assuming all retrofits occur in the schools in the lowest-income schools district. See further estimates by state, city, and congressional district here: <https://kmc39.shinyapps.io/shiny-jobs-bkdwn/>

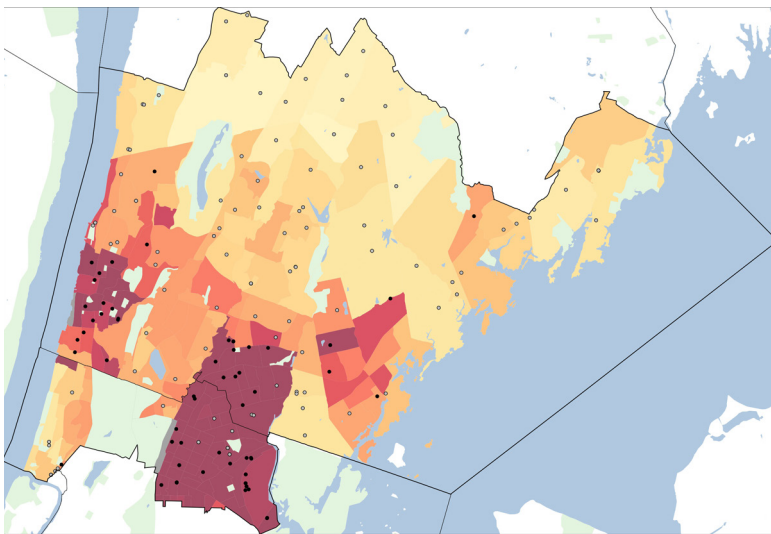
APPENDIX: DISTRICT MAPS NY-16



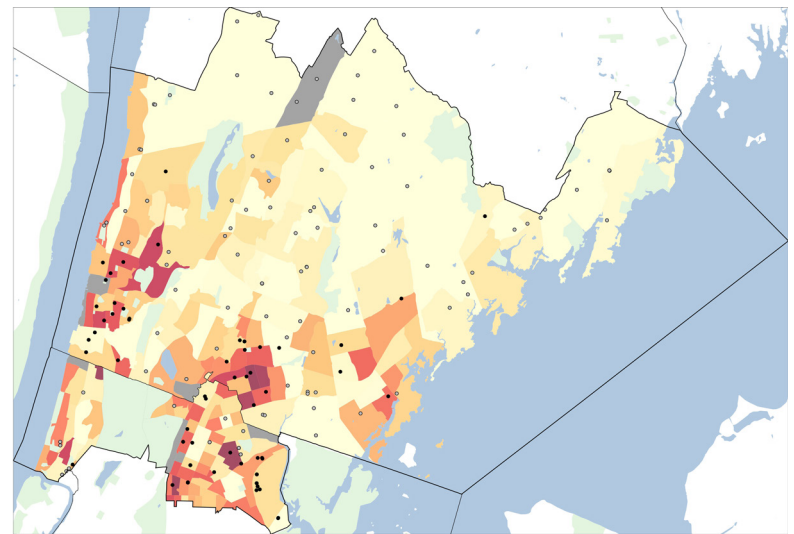
74 **LIFE EXPECTANCY** 84
(Years of life)



8 **ASTHMA PREVALENCE** 12
(Percent among adults over 18 years or older)



1 **HEAT VULNERABILITY** 5
(Decile of summer high temperature divided by decile electricity costs of the ability to pay electricity costs)



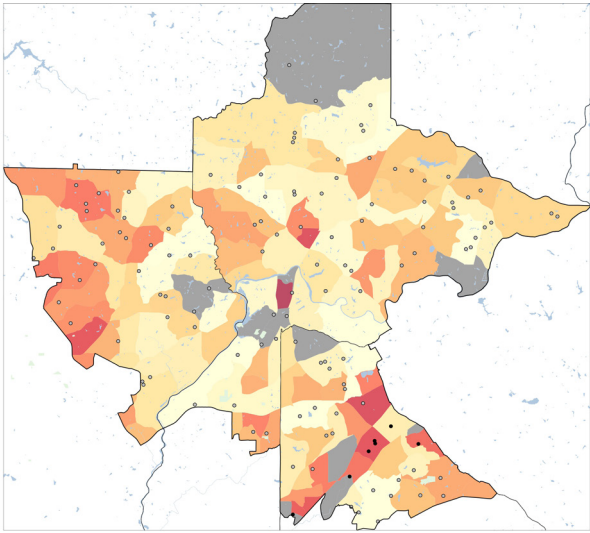
.1 **HOUSING COST** .4
(Housing units with selected monthly owner costs w/mortgage > 35% monthly income or housing units with rent > 35% monthly income divided by total housing units)



- **K-12 SCHOOLS** (all other schools)
- **K-12 SCHOOLS** (schools in low-income census tracts)

The proposed stimulus funds would direct investments to K-12 public and community charter schools whose neighborhoods (census tracts) are in the bottom third of income nationally. In these maps, the black dots represent schools that would be targeted. The grey dots are the other schools. Maps illustrate the unequal social and environmental conditions in the communities where schools are located

APPENDIX: DISTRICT MAPS GA-6



74

LIFE EXPECTANCY
(Years of life)

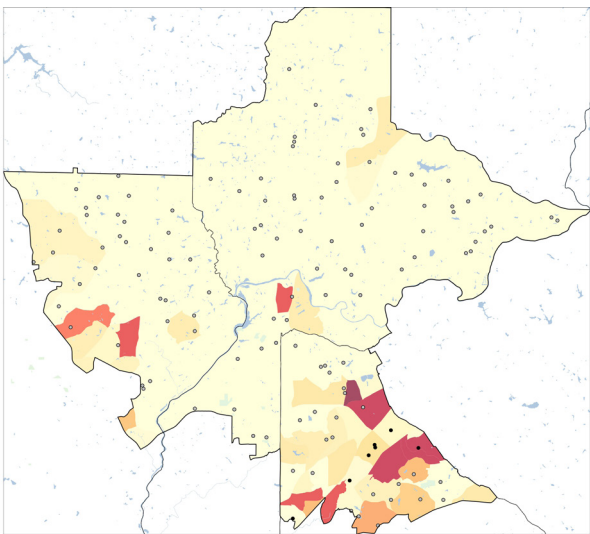
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8

ASTHMA PREVALENCE

(Percent among adults over 18 years or older)

12



1

HEAT VULNERABILITY

(Decile of summer high temperature divided by decile electricity costs of the ability to pay electricity costs)

5

.1

HOUSING COST

(Housing units with selected monthly owner costs w/mortgage > 35% monthly income or housing units with rent > 35% monthly income divided by total housing units)

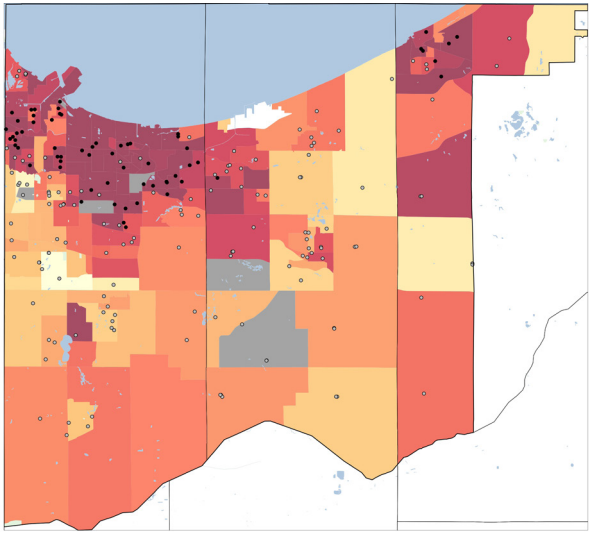
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APPENDIX: DISTRICT MAPS IN-1



74

LIFE EXPECTANCY
(Years of life)

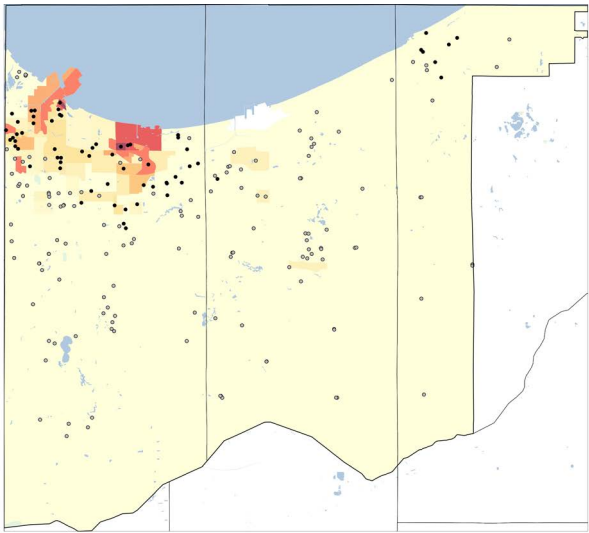
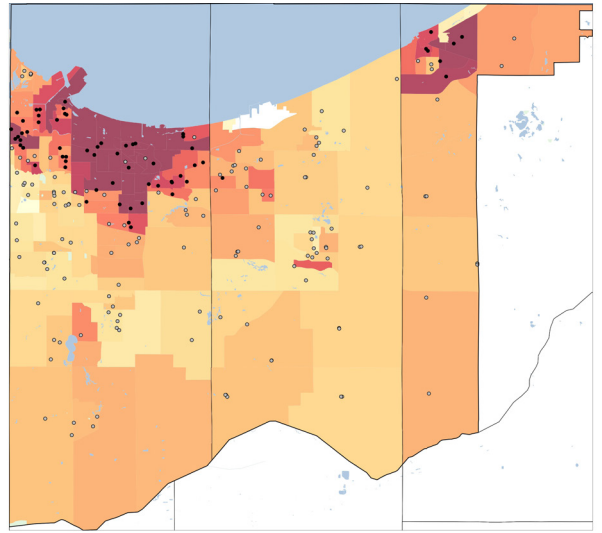
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ASTHMA PREVALENCE

(Percent among adults over 18 years or older)

12



1

HEAT VULNERABILITY

(Decile of summer high temperature divided by decile electricity costs of the ability to pay electricity costs)

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HOUSING COST

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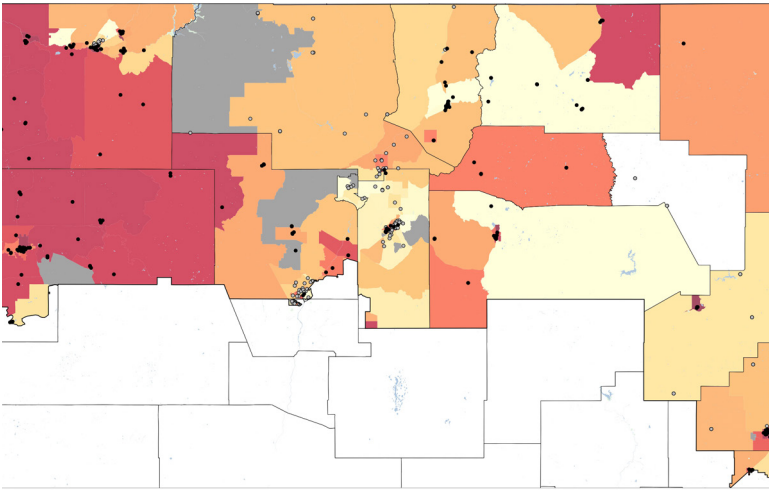
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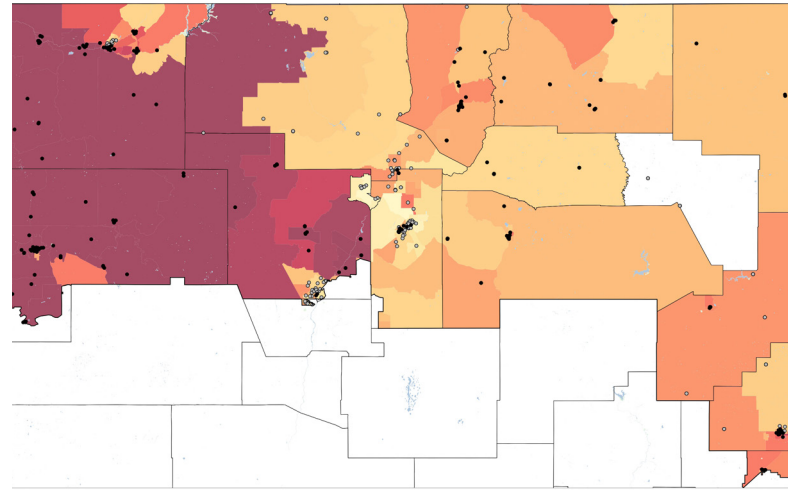
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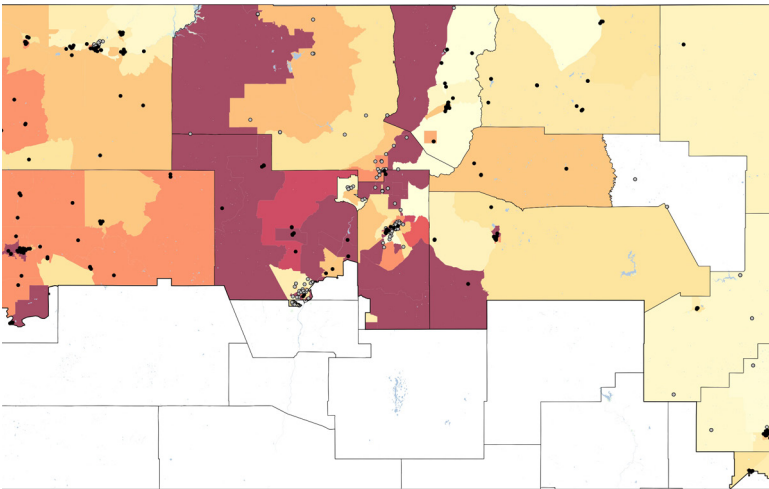
APPENDIX: DISTRICT MAPS NM-3



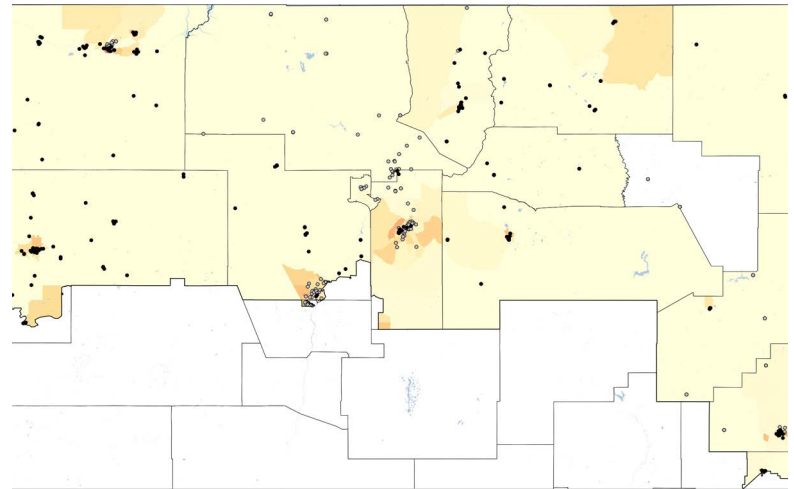
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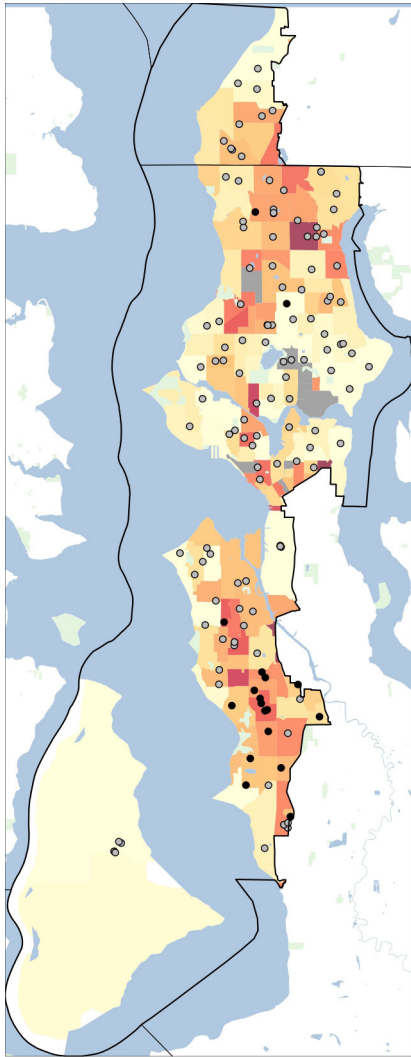
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- **K-12 SCHOOLS** (schools in low-income census tracts)

The proposed stimulus funds would direct investments to K-12 public and community charter schools whose neighborhoods (census tracts) are in the bottom third of income nationally. In these maps, the black dots represent schools that would be targeted. The grey dots are the other schools. Maps illustrate the unequal social and environmental conditions in the communities where schools are located

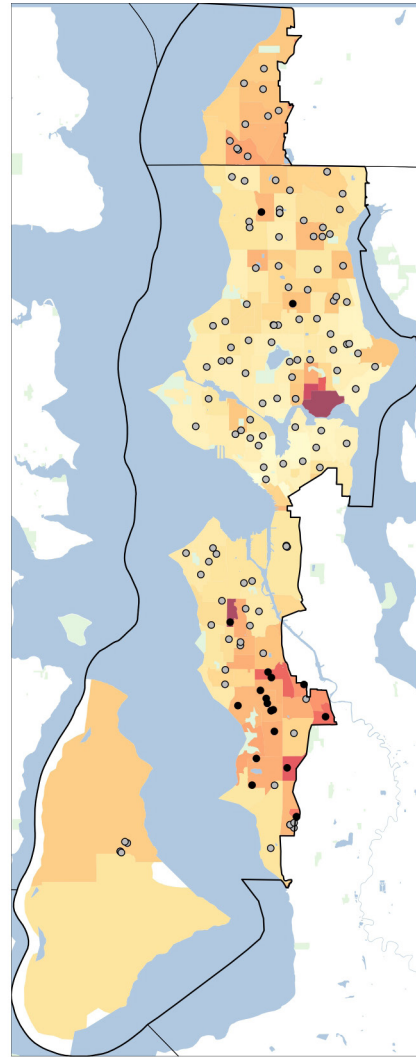
APPENDIX: DISTRICT MAPS WA-7



LIFE EXPECTANCY
(Years of life)

74

84



ASTHMA PREVALENCE

(Percent among adults over 18 years or older)

8

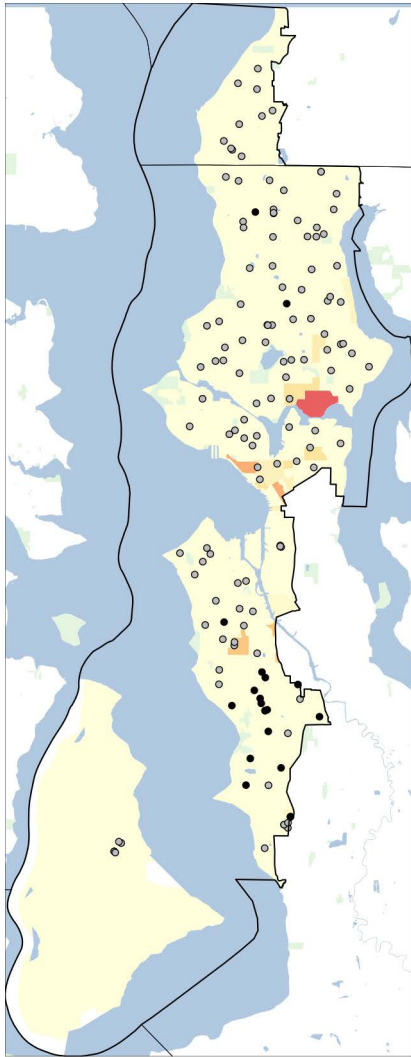
12



- **K-12 SCHOOLS** (all other schools)
- **K-12 SCHOOLS** (schools in low-income census tracts)

The proposed stimulus funds would direct investments to K-12 public and community charter schools whose neighborhoods (census tracts) are in the bottom third of income nationally. In these maps, the black dots represent schools that would be targeted. The grey dots are the other schools. Maps illustrate the unequal and environmental conditions in the communities where schools are located

APPENDIX: DISTRICT MAPS WA-7

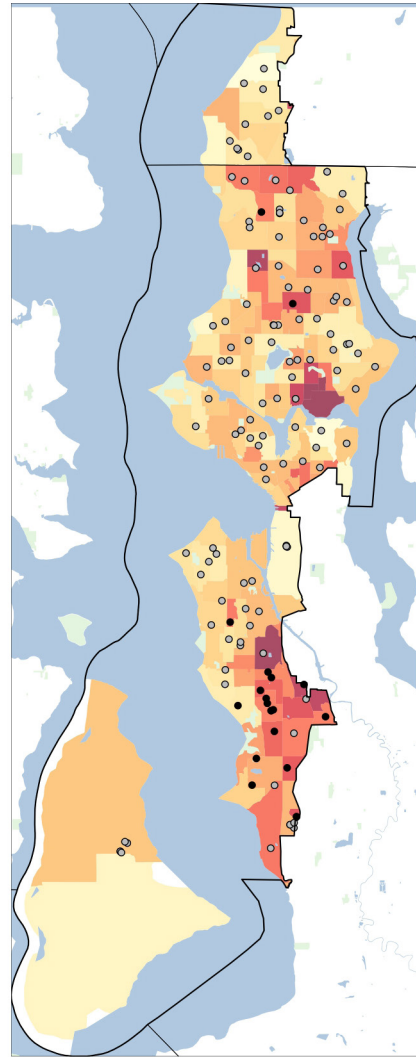


1

HEAT VULNERABILITY

(Decile of summer high temperature divided by decile electricity costs of the ability to pay electricity costs)

5



.1

HOUSING COST

(Housing units with selected monthly owner costs w/mortgage > 35% monthly income or housing units with rent > 35% monthly income divided by total housing units)

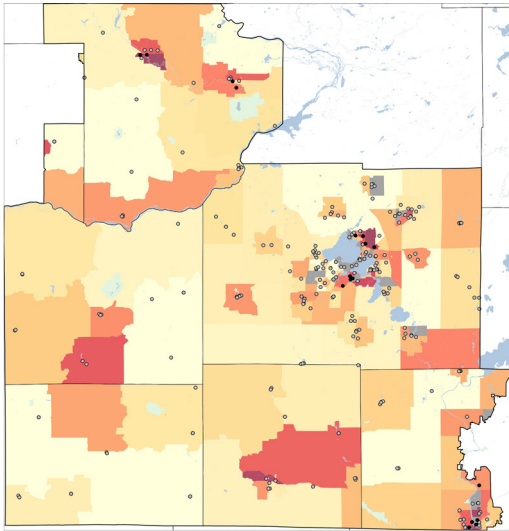
.4



- **K-12 SCHOOLS** (all other schools)
- **K-12 SCHOOLS** (schools in low-income census tracts)

The proposed stimulus funds would direct investments to K-12 public and community charter schools whose neighborhoods (census tracts) are in the bottom third of income nationally. In these maps, the black dots represent schools that would be targeted. The grey dots are the other schools. Maps illustrate the unequal and environmental conditions in the communities where schools are located

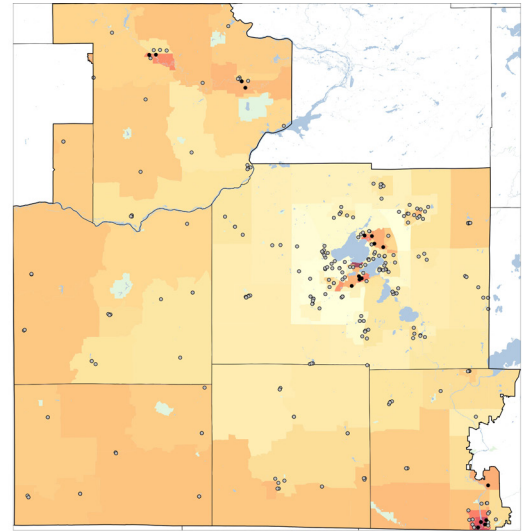
APPENDIX: DISTRICT MAPS WI-2



74

LIFE EXPECTANCY
(Years of life)

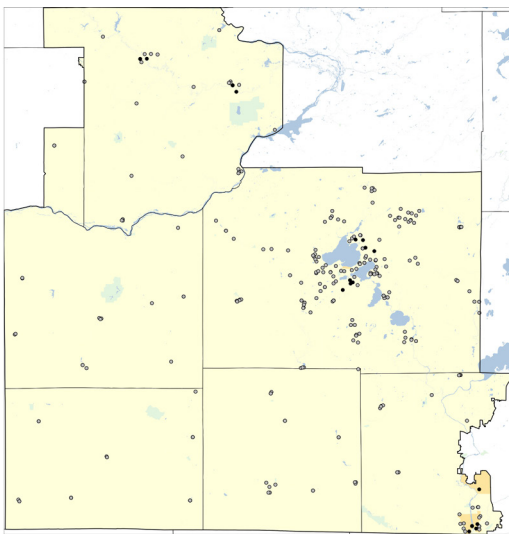
84



8

ASTHMA PREVALENCE
(Percent among adults over 18 years or older)

12

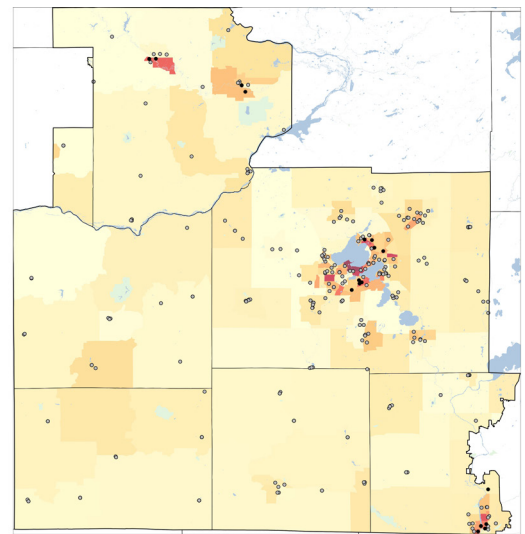


1

HEAT VULNERABILITY

(Decile of summer high temperature divided by decile electricity costs of the ability to pay electricity costs)

5



.1

HOUSING COST

(Housing units with selected monthly owner costs w/mortgage > 35% monthly income or housing units with rent > 35% monthly income divided by total housing units)

.4



- **K-12 SCHOOLS** (all other schools)
- **K-12 SCHOOLS** (schools in low-income census tracts)

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