

BRIGHT CITIES: Missoula, MT

Missoula Creates Healthier Turf and Cleaner Air for Toddlers

Missoula, MT Focuses on Cleaner Air and Reducing Pesticides to Build a Healthier Future for Kids

City staff installed HEPA air filters in childcare centers and are learning how to organically manage turf to make Missoula safer for babies.

Missoula isn't afraid to set bold goals to develop plans that reflect their community's values. As a smaller city with limited capacity and resources, city sustainability staff rely on opportunities to collaborate with organizations like Bright Cities to execute critical pieces of their plans.

And, in the case of Missoula, it meant leveraging a successful partnership with Bright Cities to reduce wildfire caused air pollution in childcare centers and to plan for a sustainable transition to chemical free turf maintenance for all turf managed by the City of Missoula.

BRIGHT CITY: MISSOULA, MT

CONCERNS:

- Increased Air Pollution from Wildfires
- Kids' Exposure to Chemicals That Harm Brain Development in City Parks

PROJECT OUTPUT:

- Installed Air Filters at 30 Childcare Centers to Lessen Air Pollutant Exposures
- Eliminated Pesticides to Improve Babies' Cognition

KIDS IMPACTED:

- Nearly 4,000 Kids Under 5 Live in Columbia



"Missoula is thrilled to partner with Bright Cities to reduce pesticide use in our well-loved public parks and create clean indoor air spaces for families during our increasingly pervasive and unhealthy wildfire smoke season."

Chase Jones, Missoula's former Energy Conservation Coordinator

Healthy Babies Bright Futures' Bright Cities Program works with Cities to Protect Babies' Brain Development

The Bright Cities program gives grants up to \$35,000 to city governments and community-based partners to equitably reduce their community's exposures to neurotoxic chemicals that interfere with all babies' brain development.

Why? 1 in 6 children in America have a neurological disability including autism, IQ loss, learning or behavioral problems, attention deficit/hyperactivity disorder and speech or cognitive delays.¹ While toxic chemicals are not the sole cause for lifelong learning and developmental deficits, they are among the most preventable.

Bright Cities works with mayors and city leaders to design the most effective strategies for a city. Benefits to being a Bright City extend beyond reducing neurotoxic exposures. Being a Bright City elicits positive responses from city residents. It provides an opportunity to leverage national funding and set the stage for sustainable equitable change. And it provides a fresh opportunity for cities to ensure that all babies have equitable, just and healthy environments.

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Air Filters Installed at Childcare Centers to Reduce Air Pollution Exposure

Since 2015, the United States has experienced, on average, about 100 more large wildfires every year than the year before. We're seeing more wildfires, more acres burned, and longer, more intense fire seasons, though of course these changes vary region by region, and year to year².

Chemicals in air pollution – from wildfires and the burning of fossil fuels and agricultural waste – are examples of toxic chemicals that can contribute to learning, behavioral or intellectual impairment, as well as specific neurodevelopmental disorders such as ADHD or autism³.

Many well-conducted studies show that high efficiency particulate air (HEPA) filters and electrostatic precipitators can lower indoor air pollution (i.e., PM_{2.5}) exposures⁴. Climate Smart Missoula, the city's community-based-partner, [purchased over 100 HEPA filters distributed to 30 local childcare centers to reduce wildfire air pollution exposure in over 400 babies and young children.](#)

More than 80% of the childcare centers indicated that they couldn't have otherwise afforded to purchase an air filter. And, likely most of the providers would not have done so independently.

Climate Smart also coordinated the [development of educational materials](#) about links between pregnancy, babies and wildfire smoke to distribute to medical providers and visiting nurses reaching an estimated 500 pregnant women.

Learn more about [improving indoor air quality via helpful information](#) compiled by the Children's Environmental Health Network (CEHN). CEHN also has a useful program to help childcare centers reduce children's exposure to environmental hazards like lead in paint and water and toxic chemicals found in cleaning supplies available [here](#).

"Every time the door opens in our center, the air filter sensor switches to orange or red, but quickly goes back to green. I can tell the kids are a lot less affected by the smoke with these air filters! Thank you!"

Jill Pastian,
Childcare Provider
and Bright Cities
project participant



Working to Eliminate Pesticide Use on City Properties Can Improve Babies' Cognition

Picture a family picnicking at the park with their little ones crawling and toddling across a grassy field. Sounds glorious, right? And often it is, *unless* unassuming toxins have been applied to that grass.

Widespread use of organophosphate (OP) pesticides in agriculture—as well as in homes, parks, schools, and hospitals and on golf courses, right-of-ways, and other public spaces—has led to ubiquitous human exposure⁵. Systematic reviews and multiple epidemiologic studies in the US and other countries, spanning diverse populations in both urban and agricultural settings, have linked OP exposures during fetal development with poorer cognitive, behavioral, and social development in children.

The Missoula Parks & Recreation Department currently uses several environmentally preferable turf management methods and is taking steps to transition to 100% chemical-free turf management.

City staff are working with [Beyond Pesticides](#) to develop a comprehensive chemical-free turf management plan emphasizing soil health and field-maintenance based on their level and type of use. Sharing information about the steps the City of Missoula is taking to minimize the use of pesticides will be done to

increase awareness and encourage residents and other landowners to eliminate pesticide use on their properties.



Learn more by reading Bright City Providence RI's "Environmentally Preferable Practices in the City of Providence Parks Department (provide link)." See how Bright City Salt Lake City created a "[Pesticide Free SLC](#)" campaign to help residents go pesticide-free. Use Bright City Boulder's [Step-by-Step Instructions for Organic Lawn Care](#) in your city. The non-profit group Toxic-Free Communities [maintains a directory of recent policies and programs](#) that US cities have used to restrict the use of pesticides.

"The City of Missoula works hard to consider people first, and to intentionally infuse healthy outcomes into our policies, programs, and services. Our Bright Cities partnership allows us to act on those principles, and the result is healthy kids, families and communities."

Mayor John Engen, Missoula, MT



PLAYBOOK TO REDUCE INDOOR AIR POLLUTION & MANAGE CITY PROPERTIES WITHOUT HARMFUL CHEMICALS

1

Seek Collaboration Opportunities

Like the Bright Cities Program, other national organizations can provide funding, technical support, and peer-learning opportunities. The Urban Sustainability Directors Network, National League of Cities (specifically the Early Childhood Success Program), Mayors Innovation Project, and regional sustainability networks are all important resources for your work.

2

Strategize with Peers & Community Leaders to Create a More Just and Healthy “Next Year”

Organize a meeting with colleagues to envision practical actions to incorporate steps into annual planning that protect babies’ brain development. Learn how to prevent toxic exposures early to give every baby its best start [here](#).

Learn about the most effective actions a city can take to reduce toxic exposures in babies and see how other cities have tackled these actions [here](#). Determine how these actions fit into existing city plans (e.g., your city’s sustainability, climate, resilience, and/or general planning) so that actions to protect some of your city’s most vulnerable residents happen as part of “business as usual.”

3

To Reduce Indoor Air Pollution Exposure in Your Childcare Centers

Select a Portable Air Cleaner - Missoula used a portable air cleaner (PAC) made by Winex. Factors to consider when selecting a PAC are: HEPA filter quality (must be “true” HEPA not HEPA-like), room size, noise level, EnergyStar rating, and cost. The PAC selected should also be on the California Air Resources Board’s list of approved PACs. Learn more [here](#).

Find Out Who Needs an Air Cleaner - Climate Smart Missoula, in partnership with the Missoula City-County Health Department, [sent a letter](#) to all childcare providers in Missoula County and invited them to complete a survey to receive one or more HEPA Portable Air Cleaners.

Leverage Actions with Local Partners for Bigger Impact - The Bright Cities grant [helped leverage additional project funding](#) from Northwestern Energy and private donations. The United Way of Missoula County was the primary funder.



4

Transition to Chemical-Free Turf Maintenance

Check Out Your City's Current Turf Management Plan - Check out the toolkits — [Non Toxic Neighborhoods Tool Kit](#), [Beyond Pesticides "Tools for Change,"](#) and the [Midwest Municipal Pesticide Reduction Toolkit](#) — bursting with information and examples of making it happen. Then, seek support for your ideas from the Parks & Recreation Director and other municipal allies.

Seek External Technical Support - Other Bright Cities, including [Boulder CO](#), [Salt Lake City UT](#), and [Providence RI](#) have existing chemical-free turf maintenance programs and policies, and connecting with them is a great way to source ideas.

You can also contact [Beyond Pesticides](#), a nationwide non-profit with affordable expertise in designing safe pest management programs at info@beyondpesticides.org. For connection to other Bright Cities, contact Kyra at knaumoff@hbbf.org.

Enable City Leadership - Just like any other shift in policy, it's important to ensure that decision makers understand the concepts, challenges, strategies, and benefits of your plan. That will equip them as they work to establish a new city policy. Remember that many people do not often like change.

Keep that in mind as you ask them to shift how they control pest pressure in the landscape. Be sensitive to this and work to support their efforts to switch to organic and regenerative practices to control pests.

5

Share Your Project's Success

Contact local media, publish a blog, have a party, send thank-you gifts to partners, and celebrate your success! It's a big deal to transition to healthier practices, and it's worth taking time to savor and celebrate the moment. If you can, share the process and success story with surrounding communities and colleagues to continue building a healthier and brighter future for all.

6

Expand & Evolve

Consider the actions associated with this project a first step for an even more impactful future gain. Are there new partners — neighboring cities, aligned organizations, friends, etc. — who could be invited to engage in the work? Does your initial work make your city more competitive for grant funding? For example, [Stonyfield Organics regularly has a competitive grant application](#) to help transition playing fields to organic management. Find opportunities to leverage your initial work.

Have questions about Salt Lake City's actions?

Contact the Community Development Division within the Missoula's Department of Community Planning, Development, and Innovation at [406-552-6399](tel:406-552-6399).

Curious about funding and/or informational resources?

Contact Kyra Naumoff Shields, Bright Cities Program Director, at knaumoff@hbbf.org



The Bright Cities program provides grant funding for US cities and community based partner organizations to reduce exposures — in pregnant women and children under 2 years — to the nine neurotoxins with the strongest associations to developmental delay.¹ These neurotoxins are arsenic, flame retardants, lead, mercury, combustion byproducts called PAHs, banned industrial chemicals PCBs, organophosphate pesticides, a rocket fuel component and fertilizer contaminant called perchlorate, and plastic additives called phthalates.

ENDNOTES

- 1 Bennett D, Bellinger DC, Birnbaum LS, et al. Project TENDR: Targeting Environmental Neuro-Developmental Risks The TENDR Consensus Statement. *Environ Health Perspect*. 2016; 124(7):A118-A122.
- 2 Union of Concerned Scientists. Infographic: Wildfires and Climate Change. Sept 2020.
- 3 Payne-Sturges DC, Marty MA, Perera F, et al. Healthy Air, Healthy Brains: Advancing Air Pollution Policy to Protect Children's Health. *Am J Public Health*. 2019;109(4):550-554.
- 4 Barn PK, Elliott CT, Allen RW, Kosatsky T, Rideout K, Henderson SB. Portable air cleaners should be at the forefront of the public health response to landscape fire smoke. *Environ Health*. 2016;15(1):116.
- 5 Hertz-Picciotto I, Sass JB, Engel S, et al. Organophosphate exposures during pregnancy and child neurodevelopment: Recommendations for essential policy reforms. *PLoS Med*. 2018;15(10):e1002671. Published 2018 Oct 24.
- 6 National Research Council, Pesticides in the Diets of Infants and Children, National Academy Press, Washington, D.C., 1993, pp. 4, 23–24, 325–326.