

THE CHARGING STATION

THE OFFICIAL NEWSLETTER OF A²ZERO AND THE ANN ARBOR OFFICE OF SUSTAINABILITY AND INNOVATIONS



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ABOUT THE AUTHOR:



The author for this month's feature article on Air Quality Monitoring is Sean Reynolds. As a Community Sustainability Coordinator with OSI, Sean's work primarily focuses on enhancing community resilience and building a circular economy.



WELCOME

Welcome from the City of Ann Arbor's Office of Sustainability and Innovations (OSI)! This month's issue of *The Charging Station* focuses on our air quality monitoring program, which is but one of the many programs we run with the goal of achieving the equitable, healthy, safe, and carbon neutral community envisioned in the A²ZERO Plan. If you are interested in learning more about A²ZERO and our work, more detail can be found on our website: www.a2gov.org/sustainability. And as always, thank you for your interest in sustainability activities in Ann Arbor!

LAND ACKNOWLEDGEMENT

Equity and justice are at the center of A²ZERO and staff in OSI are continuing to ground our work in these critical principles. In that light, we'd like to take a moment to honor the geographic and historic space we share. We acknowledge that the land the City of Ann Arbor occupies is the ancestral, traditional, and contemporary lands of the Anishinaabe and Wyandot peoples. We further acknowledge that our city stands, like almost all property in the United States, on lands obtained, generally in unconscionable ways, from indigenous peoples. The taking of this land was formalized by the Treaty of Detroit in 1807. Knowing where we live, work, study, and recreate does not change the past, but a thorough understanding of the ongoing consequences of this past can empower us in our work to create a future that supports human flourishing and justice for all individuals.

AIR QUALITY MONITORING IN ANN ARBOR

Clean, healthy air is critical to ensuring our health and community vitality. Research has linked air pollution to lung and heart disease, increased asthma rates, and other health problems – and climate change is only exacerbating poor air quality. The City of Ann Arbor’s A²ZERO Plan includes an action to “implement sensors to monitor heat [and] air quality,” and so in 2022 OSI began installing a network of air quality monitors across the city. So far, three of these monitors have been installed: one at the Ann Arbor Farmers Market; one at the intersection of Main Street and Washington Street; and one at Bryant Community Center. Additional monitor installations are planned for 2023 and beyond, as we expand the network to include approximately ten sensors across the city.

The sensors, which are entirely solar-powered, measure pollutants such as particulate matter, carbon dioxide, ozone, nitric oxide, nitrogen dioxide, carbon monoxide, and sulfur dioxide, as well as weather data such as temperature and relative humidity. The Air Quality Index (AQI), which is the reporting index used by the United States Environmental Protection Agency (EPA), is calculated using the individual concentrations of five of these major pollutants, with the pollutant at the highest concentration determining the value of the AQI. AQI values range from 0 to 500, with higher values representing greater levels of air pollution. These values are divided into six different levels of AQI (an AQI of 1, for example, corresponds to AQI values between 0-50 and is considered "good" air quality, while an AQI of 6 corresponds to AQI values above 301 and is considered "hazardous."). To learn more about AQI and see a table of AQI levels, visit our Air webpage at www.a2gov.org/airquality. While the data gathered by our sensors is not considered to be EPA reference-level, it is monitored for accuracy.

So far, the three sensors in our network have mostly reported AQIs of between 1 and 2, with infrequent AQIs of 3+ at the Main and Washington Street sensor. On days when the AQI has reached these levels, the responsible pollutant has been particulate matter of 2.5 microns or less, which is a pollutant commonly found in the exhaust of fossil fuel-burning engines, and particularly those that burn diesel. You can learn more about particulate matter at www.epa.gov/pm-pollution.

Having a baseline of AQI readings allows us to be intentional in where we make interventions, as well as to measure the impact of those interventions. To see our newly-launched air quality data platform, please visit www.a2gov.org/airdata. On the platform, you can find a graph of AQI over time at each of our monitoring sites, as well as graphs of individual pollutants and weather data. Additional information, including an interactive map of our monitoring locations, can be found at www.a2gov.org/airquality. The raw data from the sensors can also be downloaded from this website.



The air quality monitoring station located at the Ann Arbor Farmers Market in Kerrytown. Each of our monitoring systems is 100% solar powered and transmits data via cellular networks. Pollutants measured include carbon monoxide, carbon dioxide, ozone, particulate matter, nitric oxide, nitrogen dioxide, and sulfur dioxide. Temperature, humidity, and pressure data are also collected.

You can learn more about our air quality monitoring work and the data we have collected at www.a2gov.org/airquality and about our other OSI programs at www.a2gov.org/sustainability.

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UPCOMING EVENTS

2023 Sustainability Series - Housing & Transportation: What's the Climate Connection?

Wednesday, February 22nd | 6:00pm | Virtual via Zoom & In-Person at the AADL Downtown Branch

The annual A²ZERO Sustainability Forum Series is back in 2023 and this year we're hybrid! Join us either online via Zoom or in person at the Ann Arbor District Library's Downtown branch. Our February event, titled "Housing and Transportation: What's the Climate Connection?", will be a special forum brought to you in collaboration with the Ann Arbor Citizen's Climate Lobby. Speakers will include: Jan Culbertson, Leadership Chair of the Ann Arbor 2030 District; Reid Ewing, Professor of City & Metro Planning at the University of Utah; Chris Laurent, President of Cinnaire Solutions; and Jonathan Levine, Professor of Urban & Regional Planning at the University of Michigan. You can register for this event (and for others in the series) [here](#).

For information on our upcoming events, please visit www.a2gov.org/sustainability/events.

ANNOUNCEMENTS

A²ZERO Collaborator Human Electric Hybrids, LLC Announces the Grand Opening of their New Location

A²ZERO Collaborator Human Electric Hybrids (HEH) is opening at a new location – 320 Miller Avenue! The grand opening and an open house will be held on Saturday, February 18th from 10:00am to 5:00pm. Refreshments, door prizes, test rides, and special one-day sales will be offered. And, be sure to arrive by bike for a bonus prize! For more information, contact Kim Mayes at 734-238-2269 or 734-929-5995. To learn more about HEH, check out [this interview](#) with owners Jim and Kim in *eBikes International*.

Community Climate Action Millage

The newly adopted Community Climate Action Millage will support programs and initiatives such as: direct rebates for home, rental, and business energy improvements, including rebates for energy waste reduction, renewable energy installations, appliance electrification, and energy storage systems; year-round composting and recycling collection for commercial and multi-family units; renewable energy deployments at affordable housing sites, community centers, and city facilities; support for resilience centers; local food production; heat and flood preparedness initiatives; the installation of more streetlights, crosswalks, and protected bike lanes across the city; and more electric vehicle charging infrastructure and incentives to support multi-modal transportation. Funding for these programs will be included in the upcoming city budgeting process and will be available for expenditure starting July 1, 2023. For more information, please visit <https://www.a2gov.org/news/pages/article.aspx?i=929>.

Collaborators interested in having announcements posted in *The Charging Station* can contact Sheronda Gloster at SGloster@a2gov.org.

CONNECT WITH THE OFFICE OF SUSTAINABILITY AND INNOVATIONS

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