

DEPARTMENTAL ENVIRONMENTAL JUSTICE ACTION PLAN

CITY OF CHICAGO'S GOAL: *Take a whole-government approach to improve and protect the environment, health, and quality of life in environmental justice (EJ) communities through changes to internal policies, processes, practices and/or budgets.*

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Department Name: *Department of Public Health*

Department Scope and Authorities:

Chapter 11-4 of the Municipal Code, the Chicago Environmental Protection and Control Ordinance, is “enforced by the commissioner of the department of health,” with “[a]ll duties and powers granted” under that ordinance to be exercised by her. MCC § 11-4-020. The Commissioner is empowered to adopt rules “necessary or proper” to administer the City’s environmental ordinances, MCC §§ 2-112-070; 2-112-110(b)(6). The Commissioner is also empowered to “encourage and conduct studies, investigations and research, including joint cooperative investigation and research with public and private agencies and organizations, relating to the environmental protection authorities conferred on the Commissioner pursuant to subsection (b) of this section, as the Commissioner may deem advisable and necessary;” and is granted wide authority to “do any and all other acts which may be necessary for the implementation of other powers conferred on the Commissioner under [the Municipal Code].” MCC § 2-112-110(b)(12), (c).

Environmental Justice Strategy: **Develop tools such as real-time air-dispersion modeling that assist in the identification of pollution sources impacting local air quality. Such tools enhance compliance-monitoring of certain facilities and aid in the investigation of air quality complaints.**

CDPH is committed to protecting the health of all Chicagoans, particularly those who live in Environmental Justice Neighborhoods that are disproportionately impacted by air pollution. Community residents have called upon CDPH to improve its capacity to collect and disseminate data for use in land use planning and zoning as well as environmental permitting, monitoring and enforcement. Through input at community meetings and a review of public comments, and as reflected in the Cumulative Impact Assessment “Community Input Summary,” CDPH has heard a call for us to address data gaps in pollution monitoring and be more transparent about how data is being used to hold companies accountable for their community impacts.

One way that CDPH is doing this is by piloting a real-time air dispersion modeling system for potential future adoption. This system will quantify the contributions of specific facilities' air quality impacts to sensitive areas (e.g., schools, hospitals, etc.) and neighborhoods. The system will use emissions data collected from facilities subject to CDPH's air pollution control permitting requirements. The data will be used to create a model that can predict how air pollutants will disperse in the atmosphere. This information can be used to identify areas that are at risk of air pollution exposure and to develop strategies to reduce exposure.

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The system will also be capable of doing retrospective and predictive modeling. Retrospective modeling can be used to investigate air quality complaints and to identify the sources of air pollution. Predictive modeling can be used to forecast air quality conditions and warn the public of potential air quality problems.

The system will be a valuable tool for CDPH in its efforts to protect the community. It will help CDPH to identify and mitigate the largest contributors of particulate emissions to the surrounding community. It will also help CDPH to predict and avert air quality episodes, identify and prosecute air quality complaint sources, and install or relocate air quality monitors.

Supporting Department(s): Chicago Park District (siting of weather stations and monitors); CDOT (for traffic count data)

Impact Measures:

The following are some of the impact measures that CDPH may use to evaluate the success of this initiative:

- Identification and effective mitigation of the largest contributors of particulate emissions to the surrounding community.
- Number of air quality episodes predicted correctly and averted, or early warning provided to the community and regulated industries.
- Successful identification and prosecution of air quality complaint sources.
- Instances where modeled data led to the installation or relocation of an air quality monitor.

Related Department Investments & Prior Commitments:

For the past year, CDPH has been piloting the [Envirosuite](#) platform to:

- Collect and display real-time data provided by remote sensors, including fence-line PM10 sensors and meteorological data from regulated facilities. This effort goes towards CDPH's goal of continuous vigilance of emission levels from regulated facilities near sensitive populations.
- Estimate contributions of various operations from an auto-shredding facility to a local high-school and surrounding residences to support the Department's review of the company's operating permit and help address heightened community concerns regarding the facility.

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<ul style="list-style-type: none"> Help understand the origin of observed pollution impacts, particularly from a controversial asphalt plant. 		
Action Steps	Timeline	Status
Continue piloting Envirosuite platform through: <ul style="list-style-type: none"> modeling of all Consequential Facilities (large recyclers, waste transfer stations, rock crushers) for PM10 or PM2.5, and certain gases, evaluation of modeled versus observed (from monitors) concentrations, and utilization of trajectory and dispersion modeling for complaint inspections and proactive mitigation (e.g., notifications and inspection scheduling) Send risk reports associated with predicted meteorological/dispersion data to regulated facilities and communities Obtain confirmation/feedback on risk reports from regulated facilities and the community Explore public access to real time modeling data. 	2022-2025	Ongoing
Install weather stations to improve modeling accuracy	2023-2024	Ongoing
Full deployment of Envirosuite or similar platform to support permitting and inspections of facilities, and help inform rule making and other policies. CDPH will provide access to air dispersion model to the extent possible. At a minimum, contextualized modeling results and reports will be published in the environmental dashboard and/or open data portal.	2026	Tentative
Community Input & Response		
Community Input: <i>There was community interest in the use of dispersion modeling to evaluate air quality at EJ areas and having this data be made available to the public. Others also expressed that EJ plans and actions have not been scientifically based. For instance, air monitoring is needed for PM pollution and care must be taken when setting up monitoring locations. With reliable data, air quality concerns and environmental justice plans will have a more concrete evidence base and be able to specify their plans and actions.</i>		
Response to Community Input: In response to the comments, the 2026 action step has been updated to include a statement that modeling and monitoring data will be shared with the public to the extent possible and will be used to support operations and decision making.		