

**Midwest Comprehensive Visualization Dashboards: Environmental
Justice and Neighborhood Schools in Chicago, Illinois. Part 2**
Community Comment Document

Joel Flax-Hatch, Apostolis Sambanis, and Michael D. Cailas, with the participation
of Fabio Miranda, Yuan Shao, Isabel Cruz, and Greg Arling

Introduction

The UIC School of Public Health (UIC-SPH) Emergency Management and Resiliency Planning (EMRP) program is presenting a series of Midwest Comprehensive Visualization Dashboards (MCVD) focusing on environmental health and justice (EJ) issues in this region. The first dashboard and the background study (MCVD EJ.1) identified that Chicago's toxic release inventory (TRI) reporting facilities are likely to be concentrated near neighborhood public schools in communities with a predominantly Latinx student population.¹ In this current dashboard and the accompanying study, a comprehensive assessment of potential exposure sources is performed at a one (1) mile radius from schools. The public-school children are selected as a primary exposure population unit due to their vulnerability. Because of the public health importance of this issue, a new design approach has been adopted for this dashboard. This approach relies on a community-based participatory research (CBPR) model to develop representations of data and findings that community members and policymakers can understand and use.

As part of the adopted CBPR approach, the interactive maps will be available to the community and participants until 7/30/21 at:

<https://univofillinois.maps.arcgis.com/apps/MapSeries/index.html?appid=0c080367d0bf4931aa9332b404bd815e>

Please send your comments to Dr. Michael Cailas: mihalis@uic.edu

During this period, the Southwest Environmental Alliance (SEA) will organize presentations and focus group discussions with community members and, in some cases, with policymakers. The focus of the input period is to formulate the introductory report (MCVD EJ.2_CC), which accompanies the visualization maps in an understandable and helpful format by taking into account the community comments and suggestions. Based on this cycle, the community input edition of the MCVD EJ.2_CIE.1 will be formulated in early August.

The commentary and input process will continue, and the second edition of MCVD EJ.2_CIE.2 will be made available by the end of September. We anticipate finalizing the interaction and input sessions with the community and policymakers by October with MCVD EJ.2_CIE.3 as the final product.

The supporting documents for the MCVD EJ.2 are at the following links:

- 1) MCVD EJ.1 at: <https://univofillinois.maps.arcgis.com/apps/dashboards/975bf6c0b41e4274a22adf8388987b56>
- 2) Identifying Environmental Hazards within Southwest Chicago at:
<https://storymaps.arcgis.com/stories/28c9b80be613427fa07f008d72956426>

The final MCVD EJ.2 report will contain the following main sections.

- **Background, definitions, and objectives**
- **Exposure sources**
- **Data sources and limitations**
- **Proximity and burden metrics**
- **Discussion** (on the distribution of burdens from MCVD maps and notable findings)
- **Concluding remarks**

These sections will be gradually formulated after the input we receive during the comment period. The following (preliminary) sections are listed to assist the participants with their comments and suggestions. The community-based participatory research (CBPR) approach for the MCVD creation is feasible thanks to the UIC library portal INDIGO which "collects, disseminates, and provides persistent and reliable access to the research and scholarship of faculty, staff, and students at the University of Illinois at Chicago."

List of exposure sources

The emissions from Toxic Release Inventory (TRI) reporting facilities in the Southwest area of the City is a well documented source of hazards.² The TRI information and data portal is a resource for the public to learn about toxic chemical releases reported by industrial facilities and was created by the Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA, 1986). The location of these sites was used in the first part MCVD EJ.1.¹ The MCVD EJ.2 is taking a comprehensive approach in terms of the sources of potential exposure for the study population (i.e., school children) within a 1-mile radius. The following sources will be used:

1. The Risk-Screening Environmental Indicator (RSEI) Hazard for each TRI facility. The RSEI Hazard, also called toxicity-weighted pounds, is an indicator "that accounts for the size of the release and the chemical's toxicity." The RSEI Hazard does not include environmental fate and transport modeling or adjustments for population exposure. This indicator was used to derive the Hazard Burden distribution based on the proximity of each TRI facility to schools (see MCVD EJ.1 for methodology).
2. Industrial roads. The length (in meters) of major City of Chicago roads within the industrial corridors were calculated. The total length within a 1-mile radius from schools was used as a surrogate for the exposure from these industrial roads. The burden was calculated based on the methodology in MCVD EJ.1.
3. Rail yards. The City of Chicago has eight (8) major railroad hubs. Six of these eight hubs are located in the southwest section of the city. Railroad hubs are known to be a major source of particulate matter pollution and they were included in the current study. The burden was calculated based on the methodology in MCVD EJ.1.
4. Brownfields. "A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." In order to measure both the proximity and density of brownfields around public schools the US EPA's "Cleanups In My Community" (CIMC) data set was used. The burden was calculated based on the methodology in MCVD EJ.1.

Comments, suggestions, and findings

Please e-mail to Dr. Cailas (mihalis@uic.edu) your comments about the four MCVD burden visualizations. It is important as well to notify disparities in the distribution of these burdens and associate them with the school children living in these communities. To assist your understanding we are providing for each community area the percent of Latinx students in the local neighborhood schools (from the total student population attending public schools). This information is presented as a blue circle. By clicking on the community area additional information is displayed. Each map can be magnified by zooming in [+].

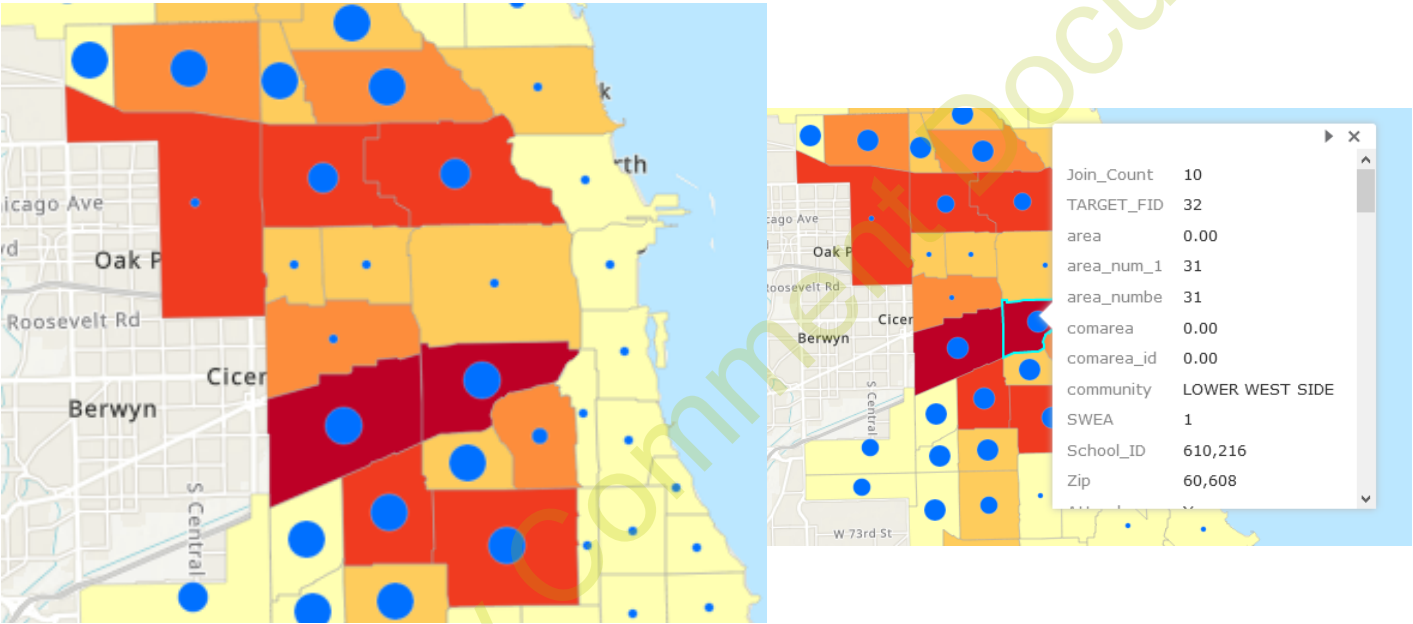
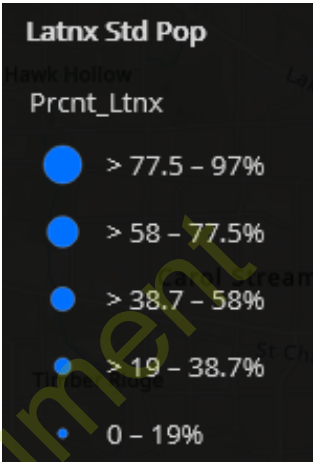


Figure 1. Visualization of the 1-mile industrial roads burden distribution on public schools in Chicago and the percent of Latinx students.

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