



# Bridging the Gaps: An Environmental Justice Analysis of The University of Maryland, Baltimore (UMB)

---

By Ben Eglash



# Presentation Overview

---

- UMB Background
- My Fellowship Experience
- Baltimore's History of Environmental Injustices
- Recommendations
- Next Steps







# About the University of Maryland, Baltimore (UMB)

---

- Opened in 1807
- Maryland's public health, law, and human services university
- UMB enrolls nearly 7,000 students in six professional schools — dentistry, law, medicine, nursing, pharmacy, and social work — and an interdisciplinary School of Graduate Studies
  - **90** doctoral, master's, baccalaureate, and certificate programs
- About 8,000 employees; 3,500 faculty
- Located in Downtown Baltimore, the campus consists of 71 acres with 6.9 million gross square feet of space in 60+ buildings



## UMB Core Values

 <b>RESPECT and INTEGRITY</b>	 <b>WELL-BEING and SUSTAINABILITY</b>	 <b>EQUITY and JUSTICE</b>	 <b>INNOVATION and DISCOVERY</b>
<b>RESPECT AND INTEGRITY</b> We value each other and hold ourselves accountable for acting ethically and transparently using compassion and empathy.	<b>WELL-BEING AND SUSTAINABILITY</b> We care about the welfare of our people, planet, communities, and University.	<b>EQUITY AND JUSTICE</b> We embrace and are committed to diversity, and we value inclusive and just communities. We oppose racism and oppression in all their forms.	<b>INNOVATION AND DISCOVERY</b> We imagine and explore new and improved ways to accomplish our mission through education, research, clinical care, and service.





# About my Fellowship



# Baltimore's History of Environmental Injustices

---



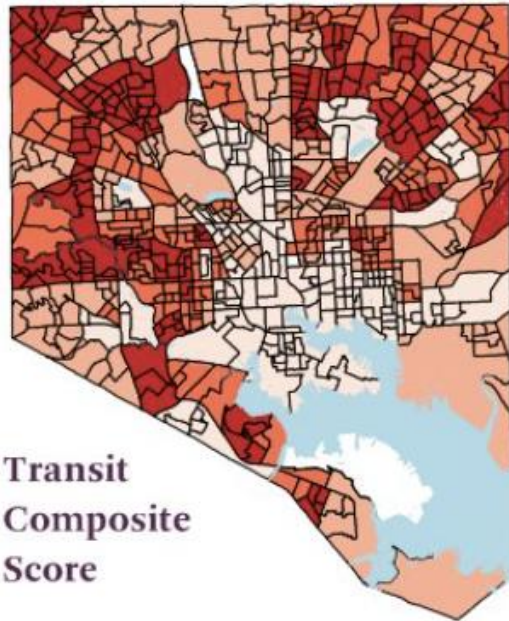
# Baltimore's Relativity to Pollution

---





# Determining Baltimore's Highest Need Neighborhoods

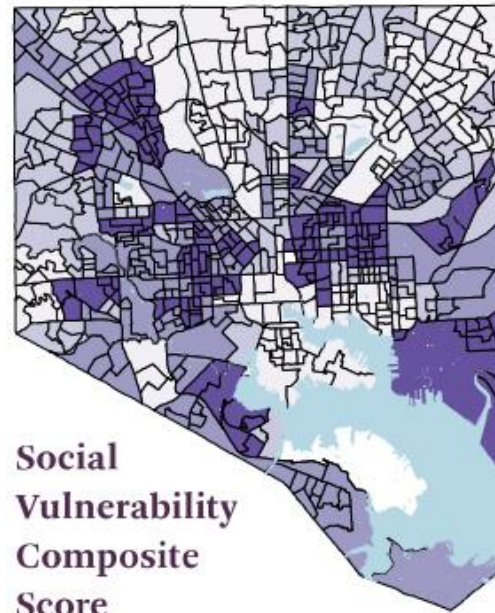


Transit Composite Score

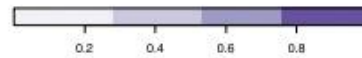


## Inputs

- Estimated average commute time
- Percent of population commuting by public transit
- Percent of population commuting by transit whose commute is >45min
- Estimated difference between average commute by public transit versus by car
- Number of transit stops in census tract (\*reversed in percentile)
- Distance over a quarter mile to high frequency transit routes

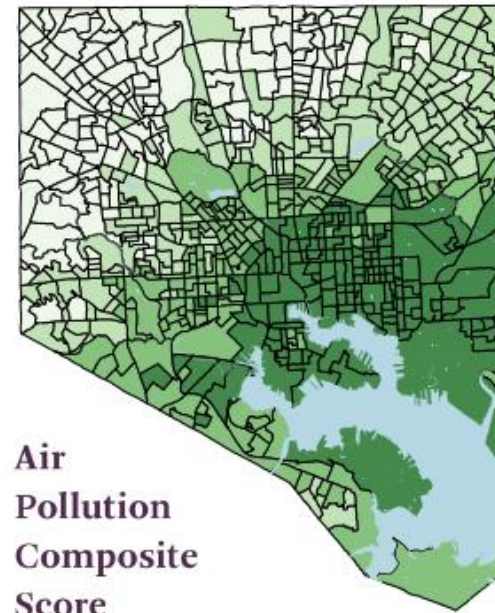


Social Vulnerability Composite Score

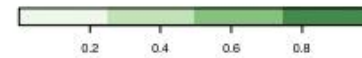


## Inputs

- Minority & Language Composite Score
- Socioeconomic Statue Composite Score
- Housing Type & Transportation Composite Score
- Houshold Composition & Disability Composite Score

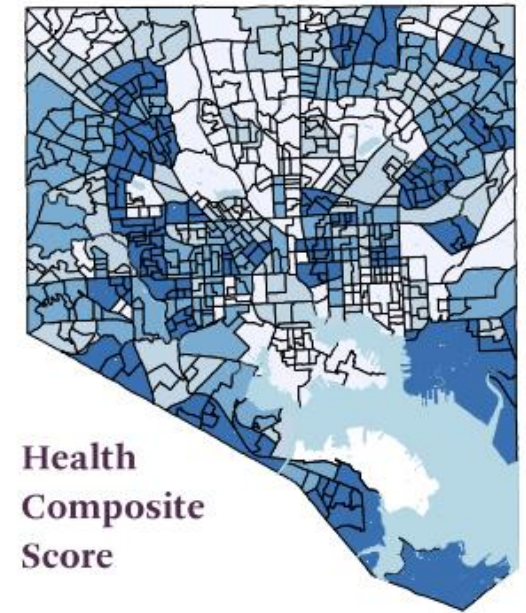


Air Pollution Composite Score



## Inputs

- PM 2.5
- Ozone
- NATA Diesel PM
- NATA Respiratory Hazard Index
- Traffic Proximity



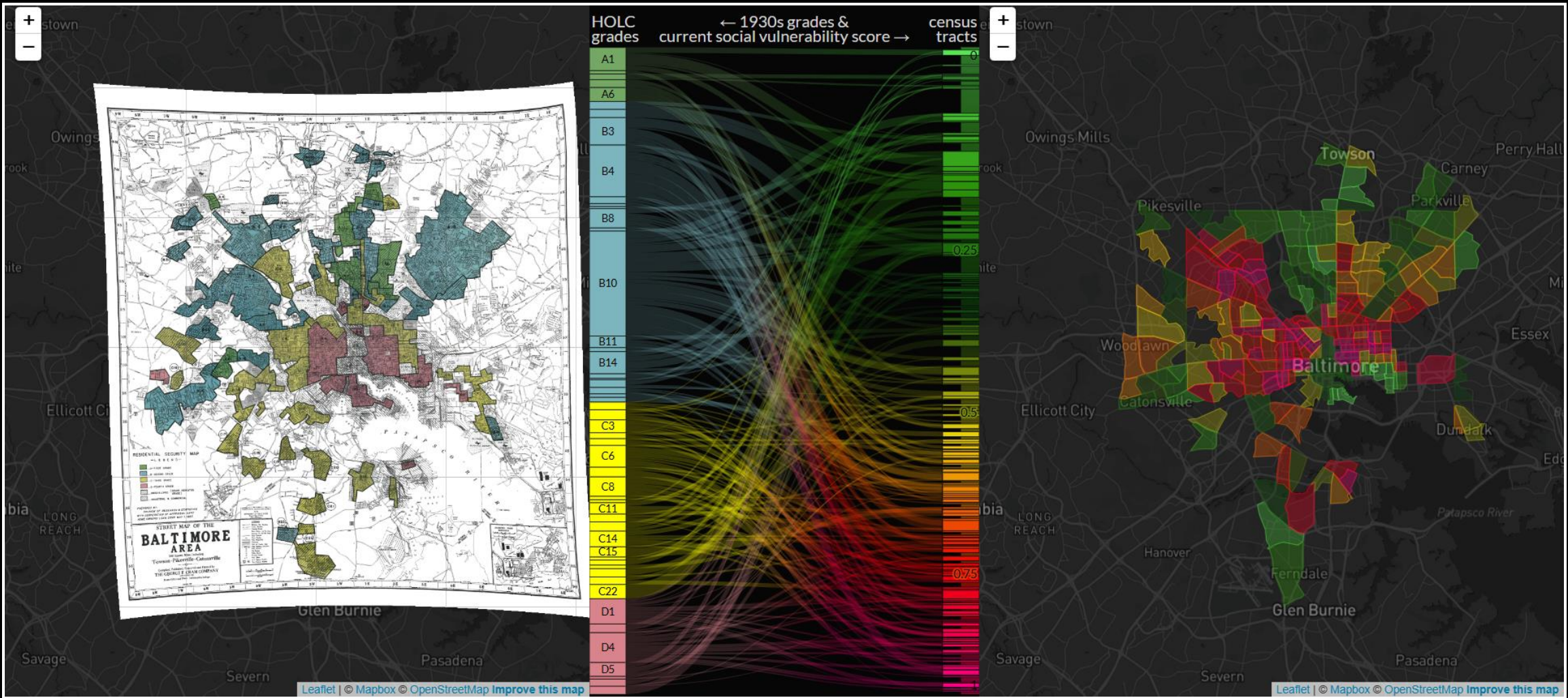
Health Composite Score



## Inputs

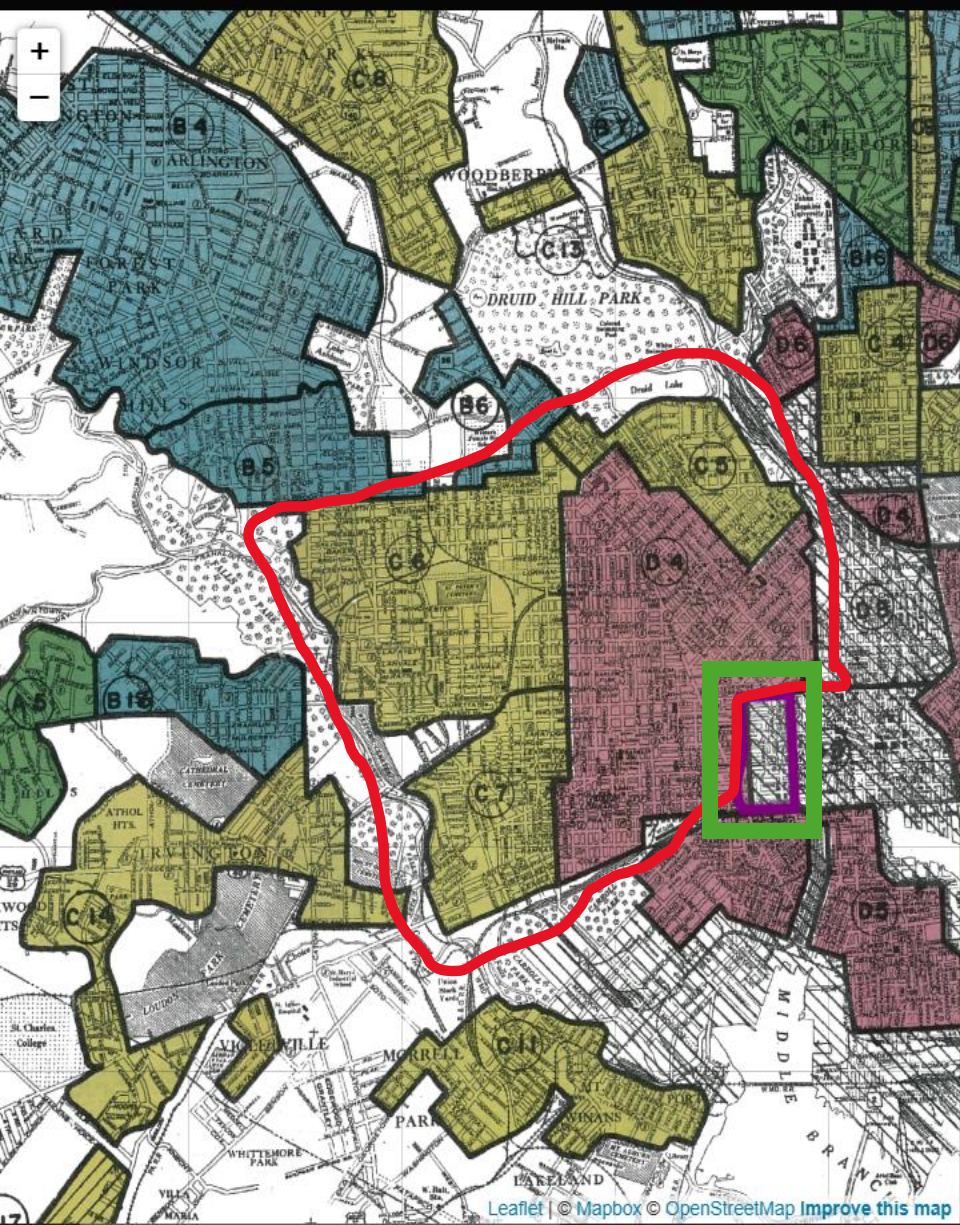
- Asthma
- COPD
- Lung Cancer
- COVID-19
- Myocardial Infarctions
- Low Birth Weight





Redlining: A Legacy of Racism in Baltimore



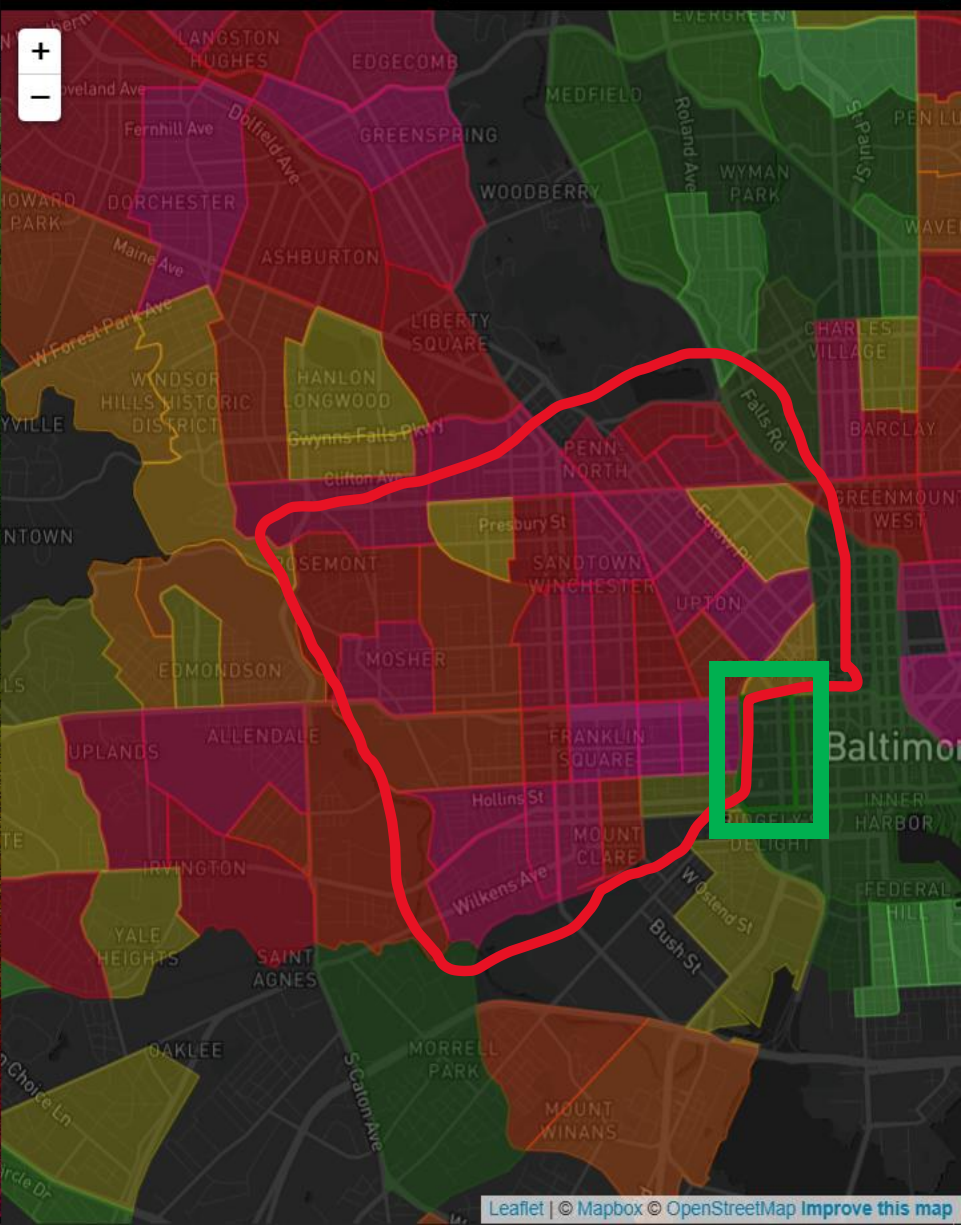


HOLC grades

← 1930s grades & current social vulnerability score →

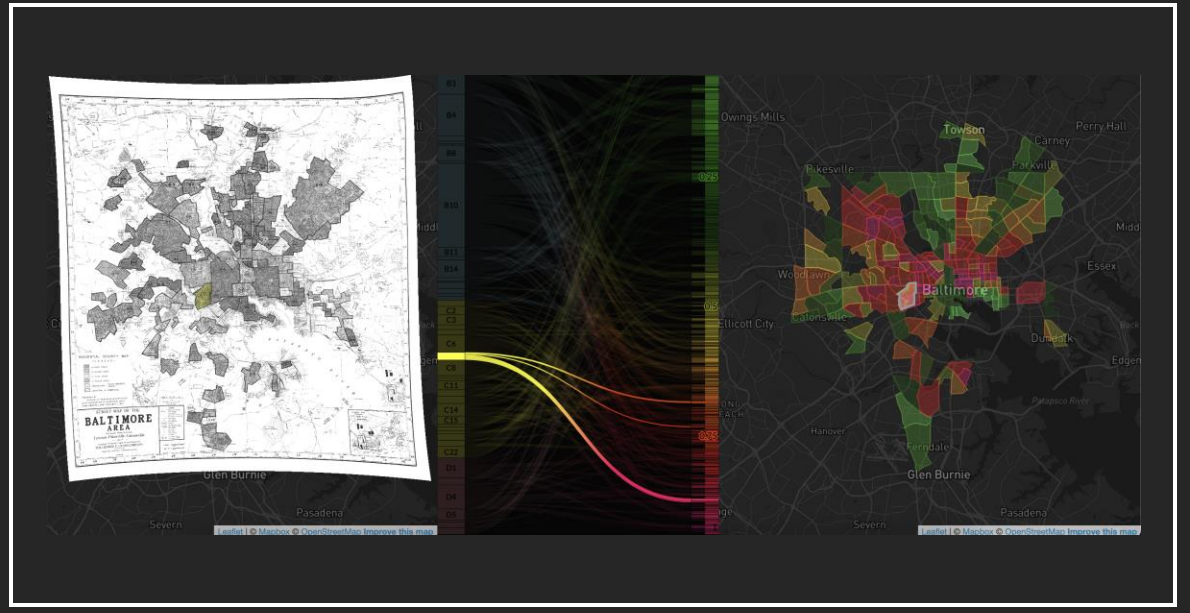
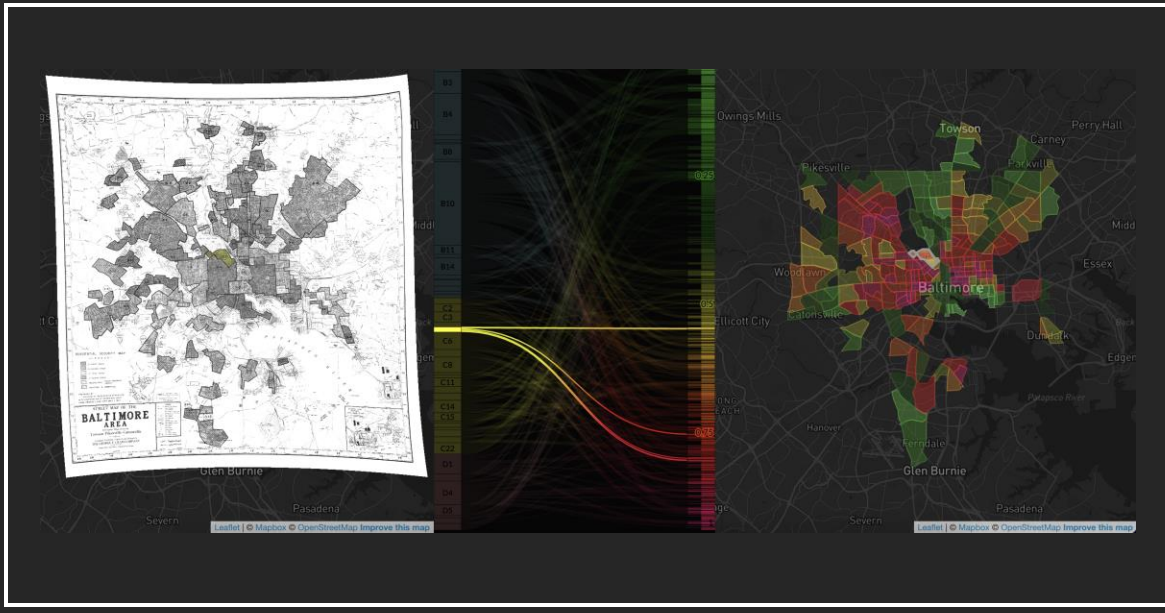
census tracts

- A1
- A6
- B3
- B4
- B8
- B10
- B11
- B14
- C3
- C6
- C8
- C11
- C14
- C15
- C22
- D1
- D4
- D5



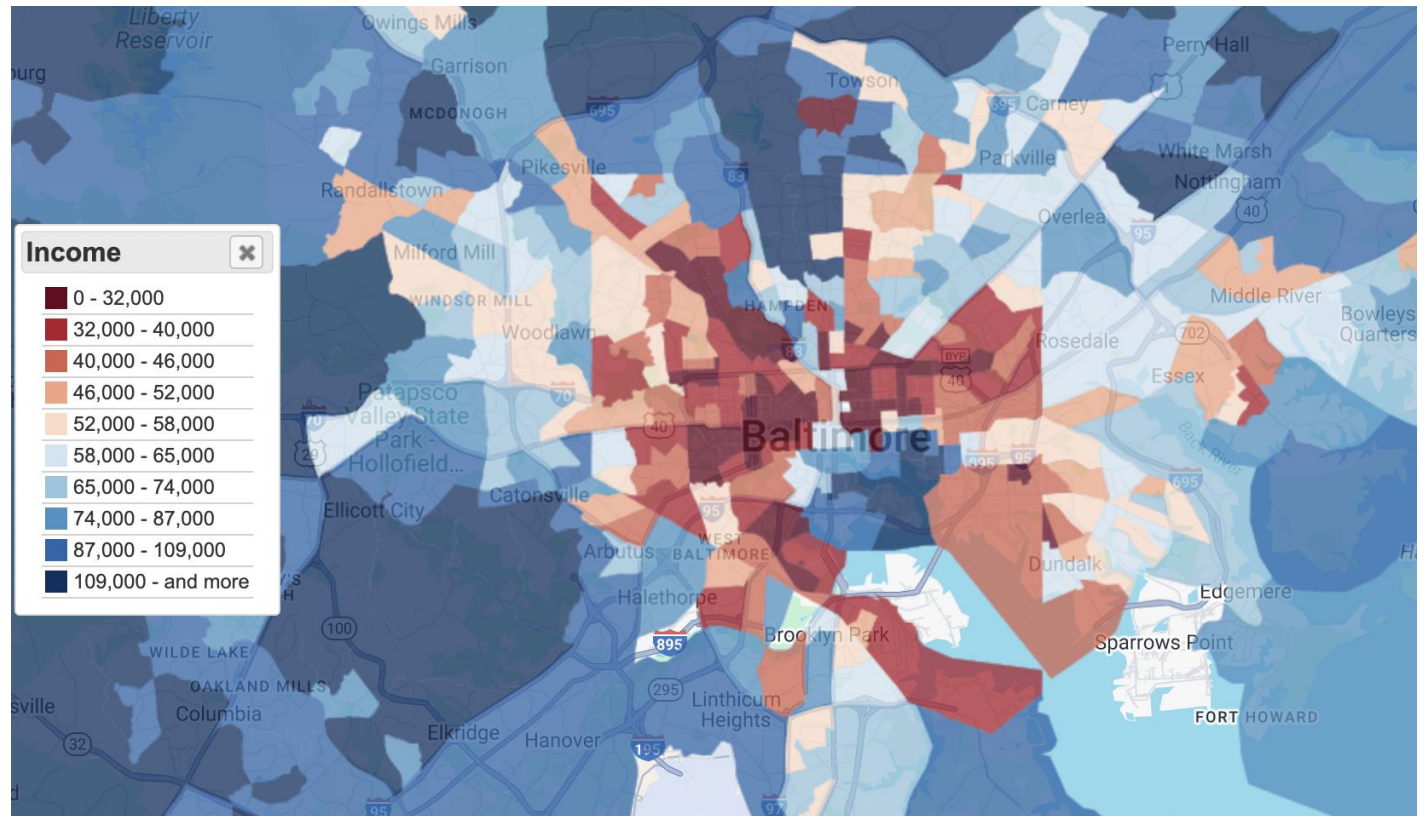
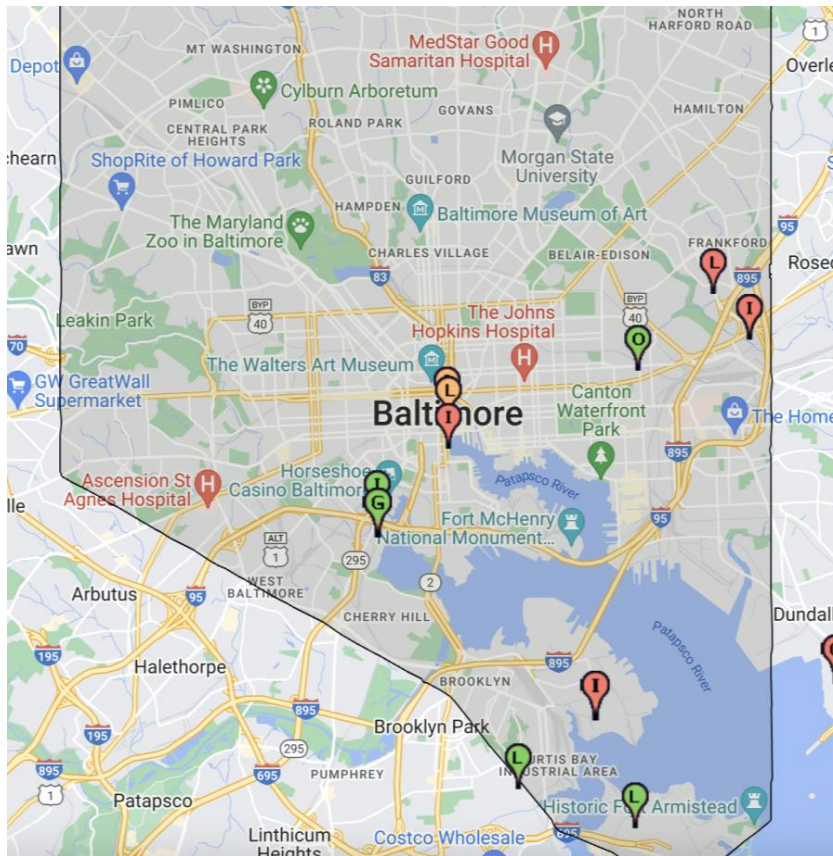
- 0.25
- 0.5
- 0.75





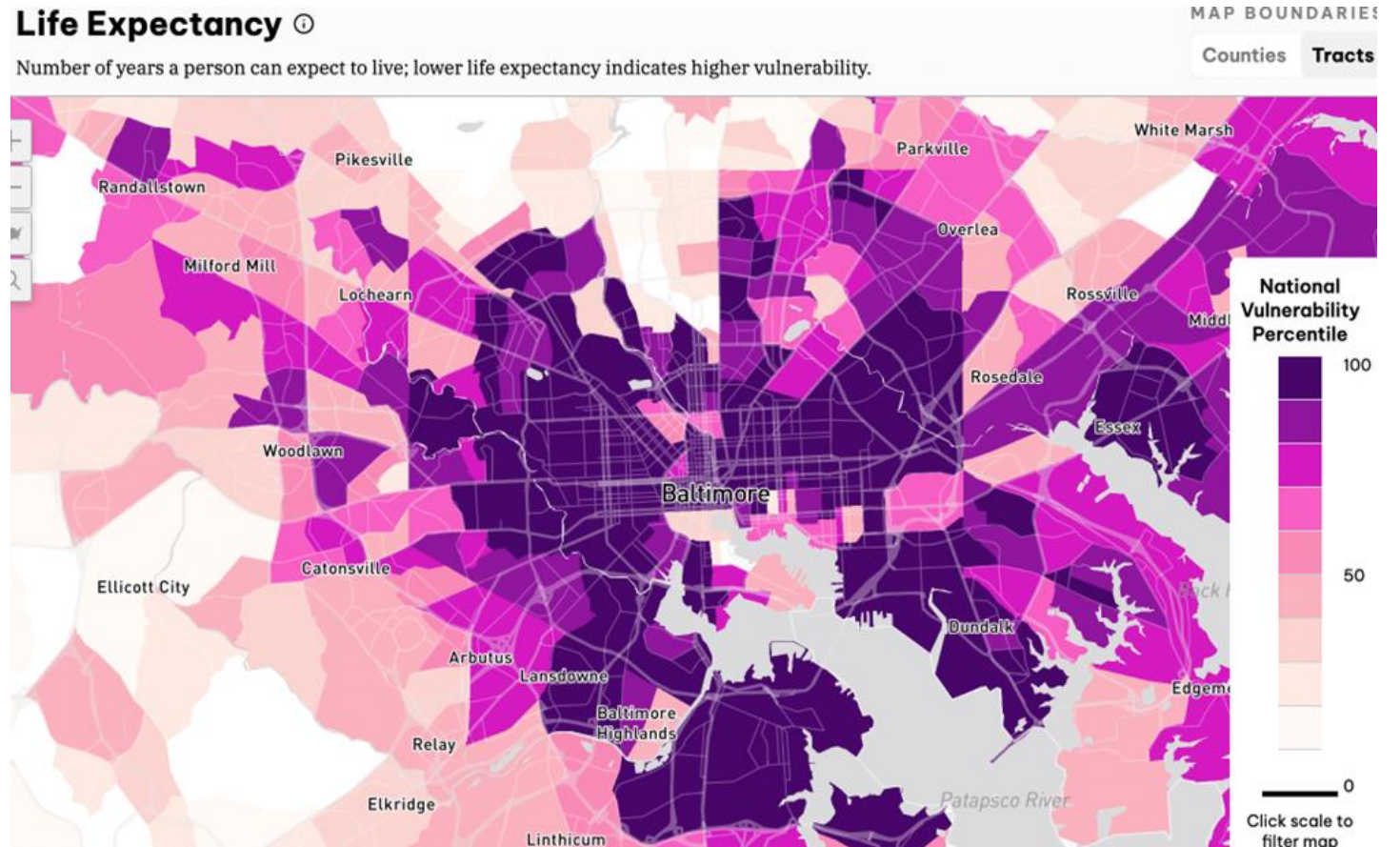
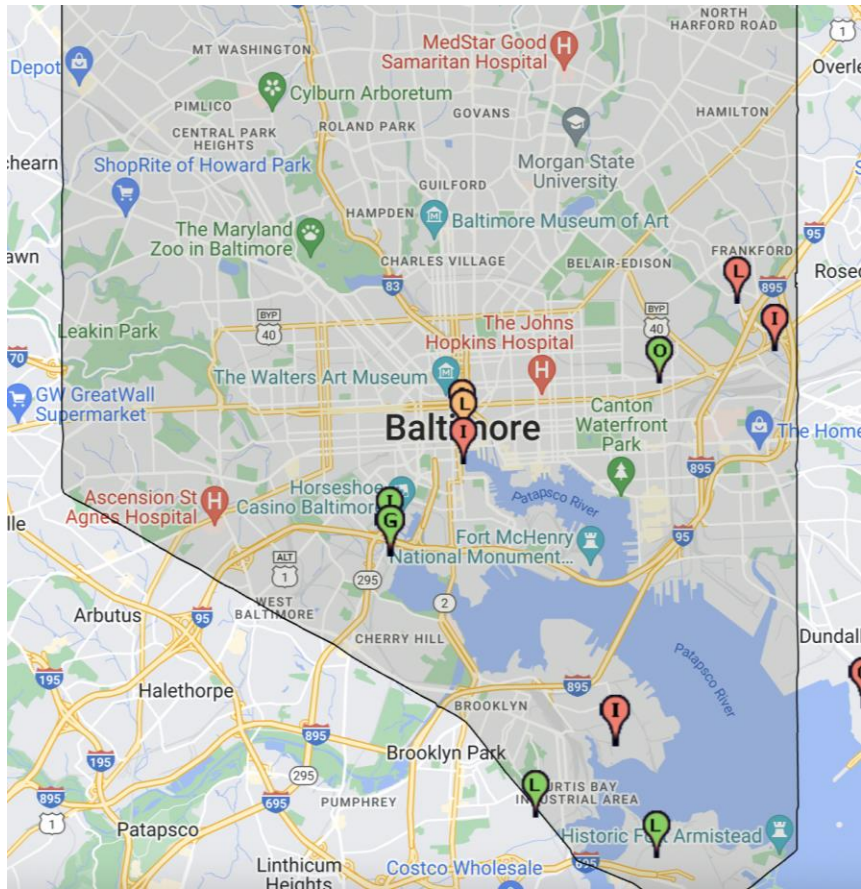


# Companies Choose to Pollute in Low-Income Areas





# Life Expectancy is Lower in Low-Income Areas





# Asthma Disparities in Baltimore are Tied to Air Pollution

Figure ES-3. 2011 Comparison of Respiratory Risks from Toxic Air Pollution (left) to Asthma Hospitalization Rates (right)

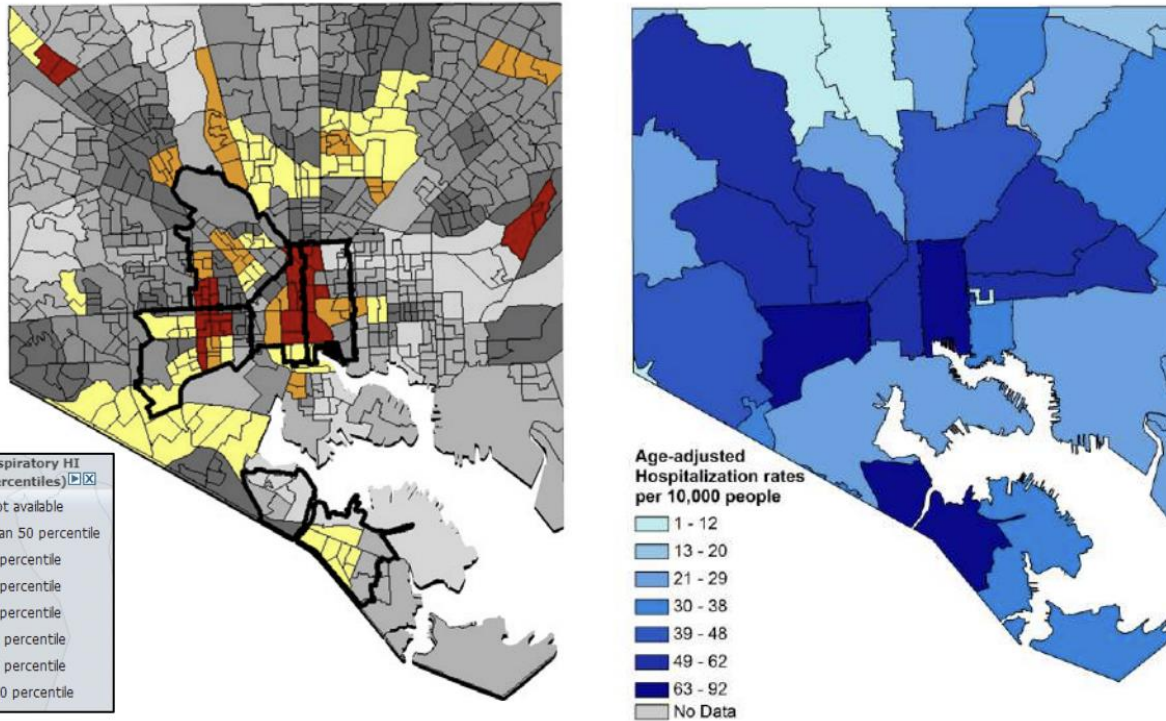
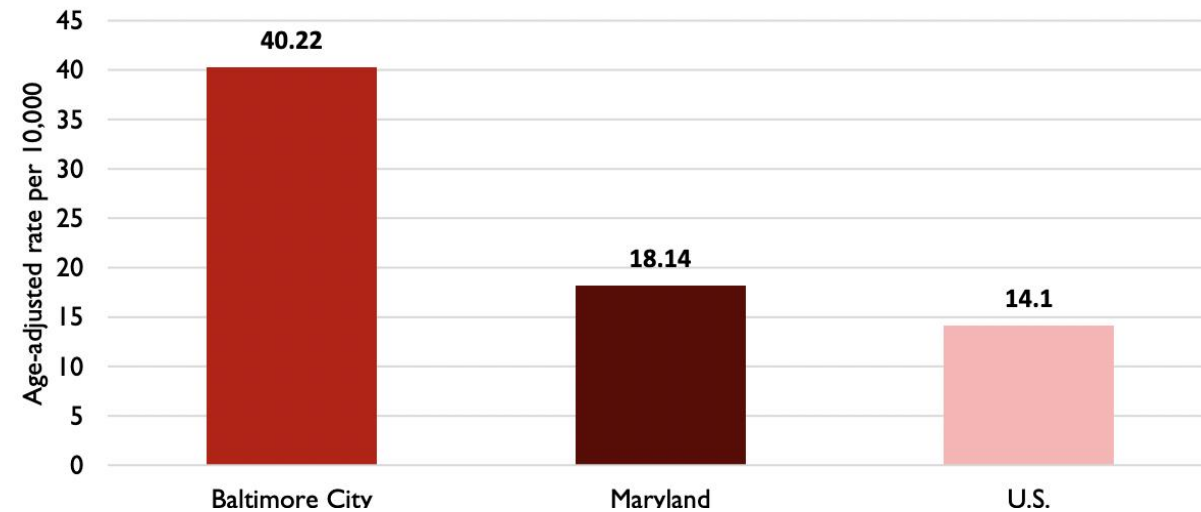
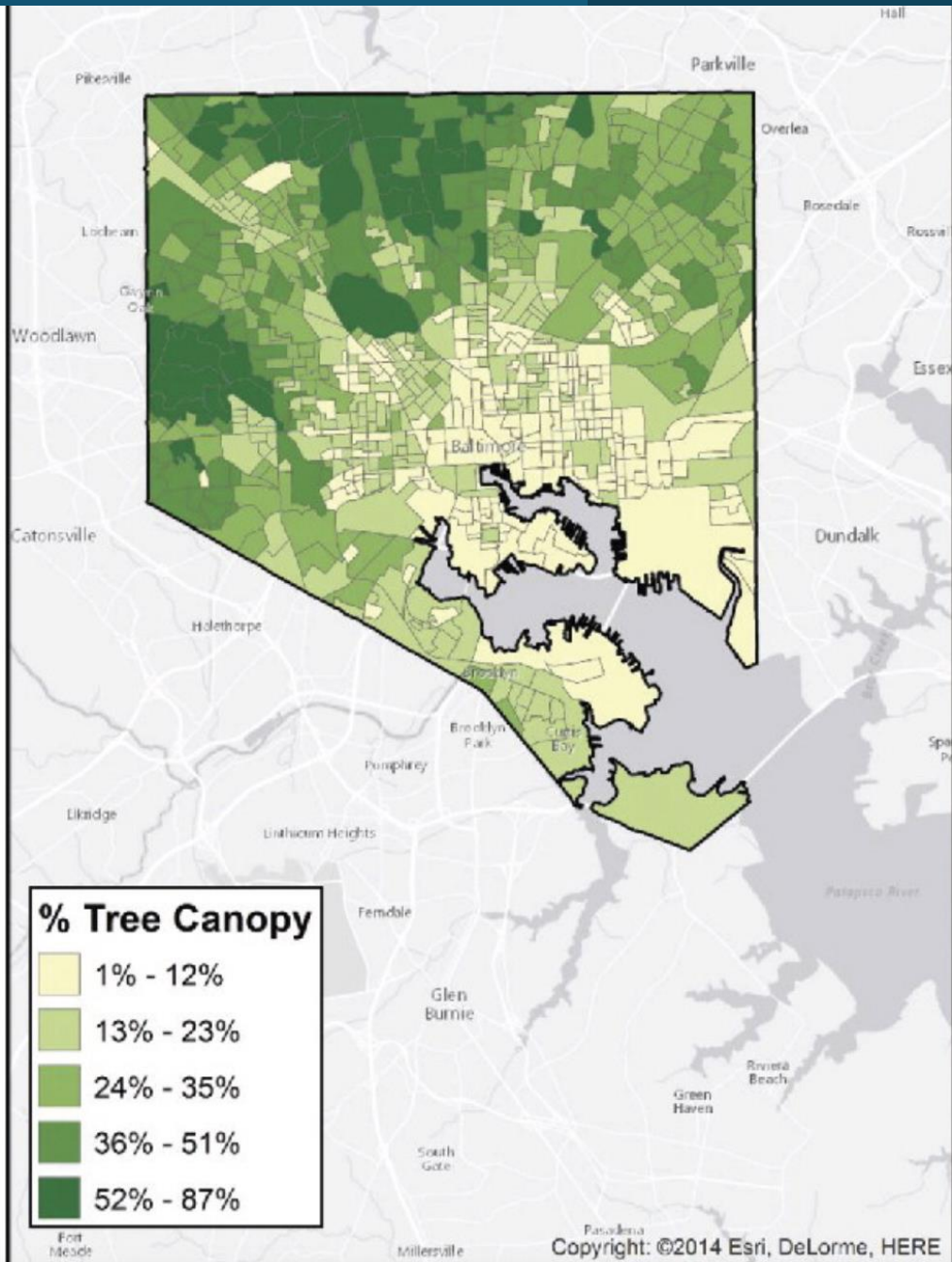
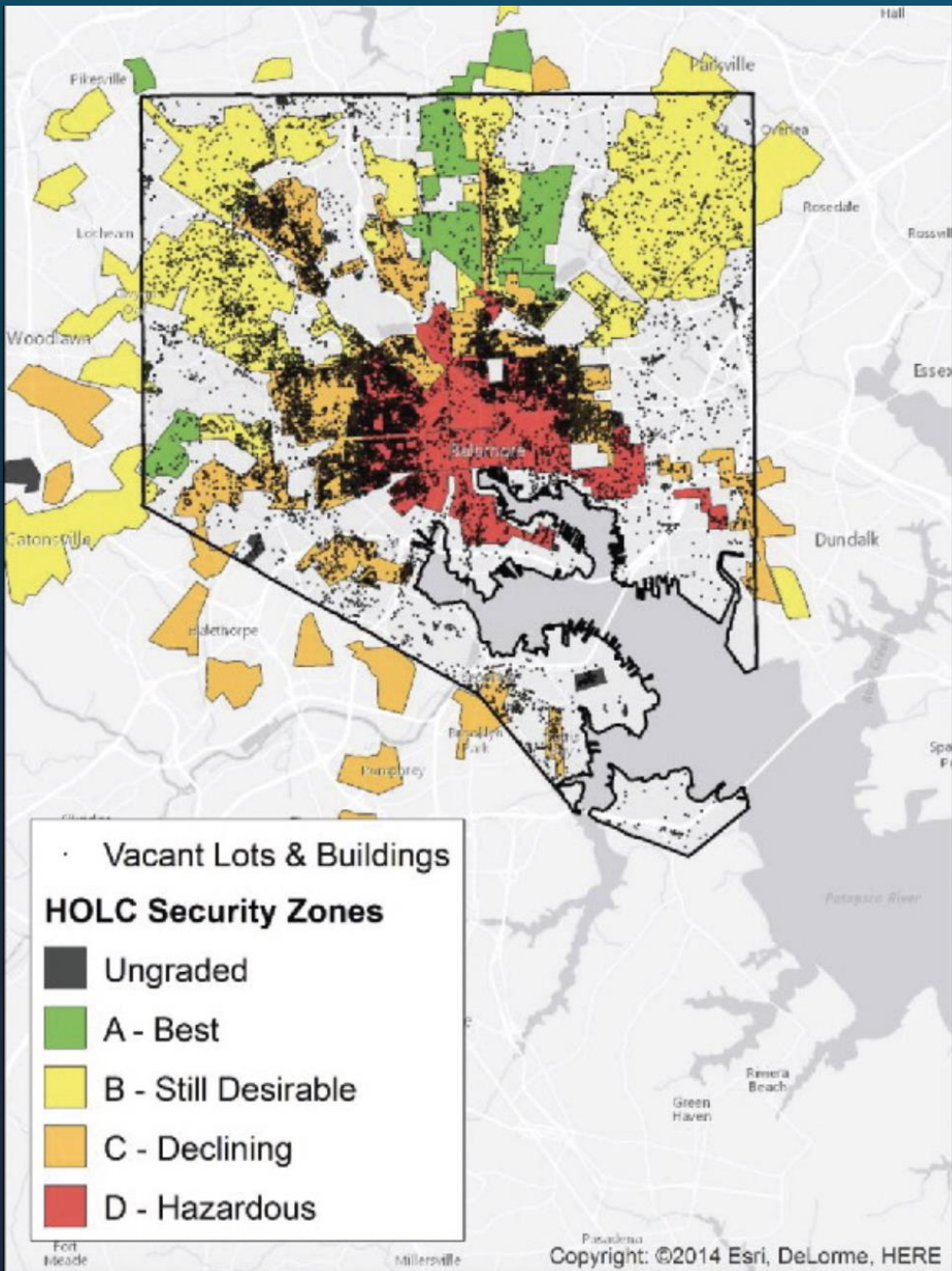


Figure I. Comparison of Asthma Hospitalization Rates in Baltimore City, Maryland, and the United States (2010)<sup>62</sup>



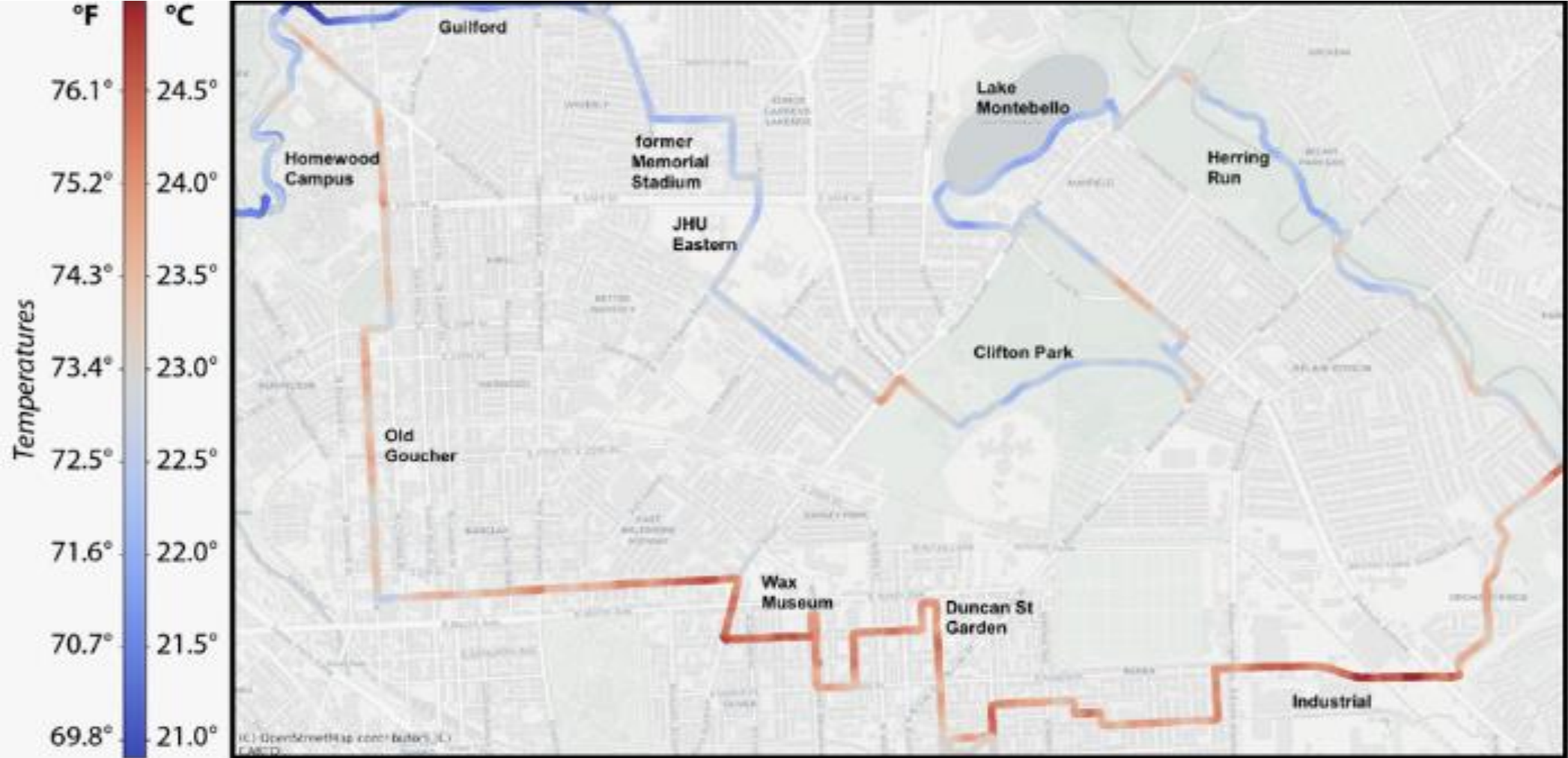
Note: Bold boundaries on Respiratory Risk map highlight zip codes with the five highest asthma-related hospitalization rates in 2011.







# Urban Heat Island Effect Presents a 17° Difference in Greened vs Urban Areas





# Recommendations

---



# Recommendation 1

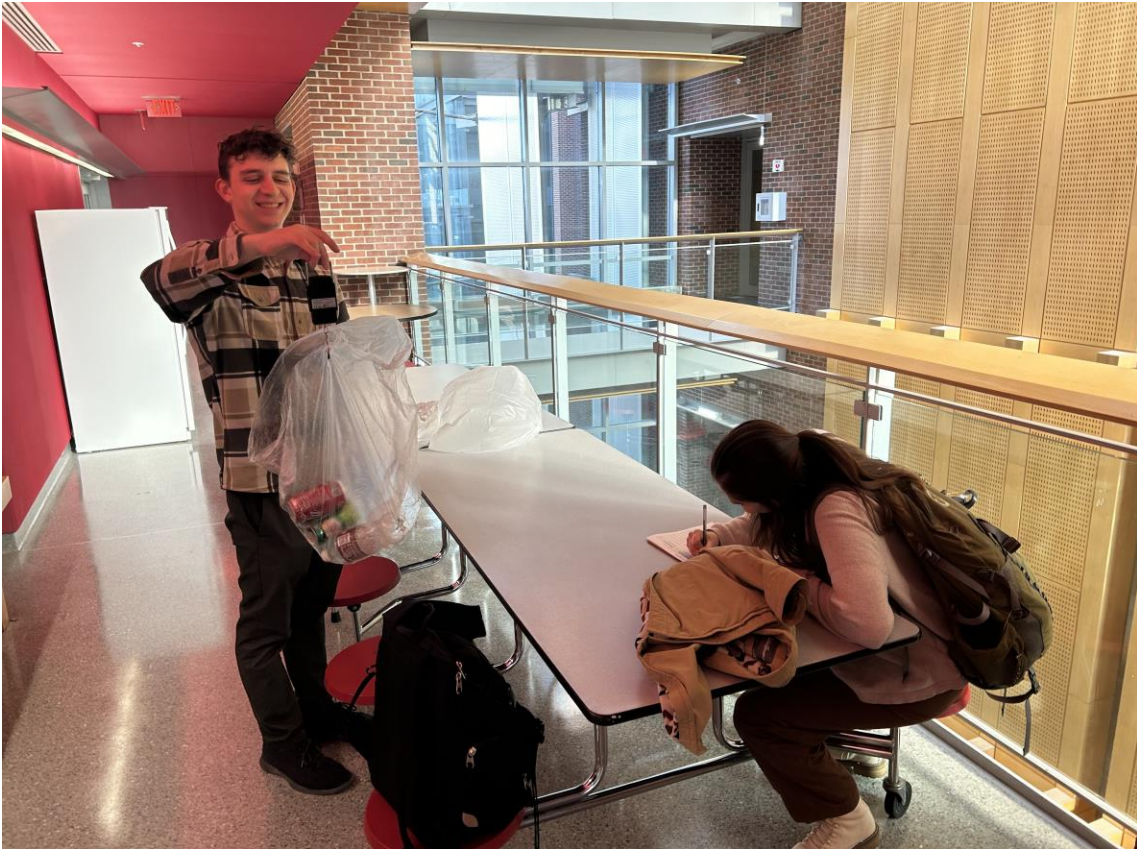
Continue to improve air quality and access to green spaces for all UMB students, employees, and communities on or near campus

---



# Continue to Improve Air Quality

---





# Advance Green Space Accessibility

---

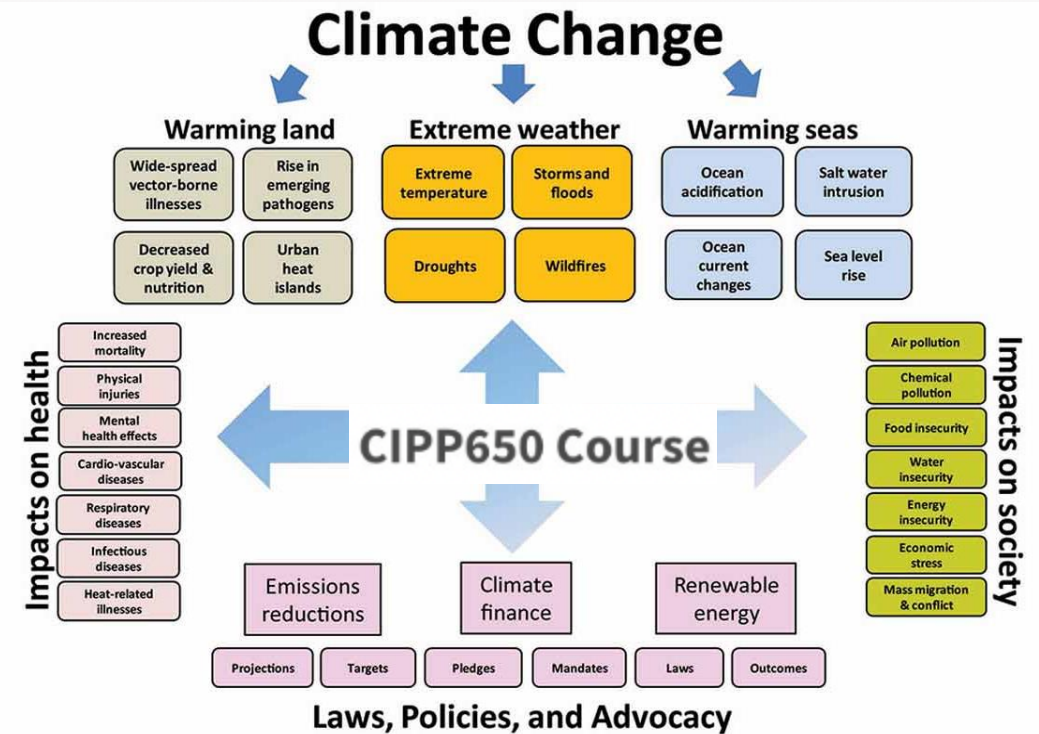




# Continue to Promote and Advance Sustainability Education



## Climate Change, Health, and Society





# **Recommendation 2**

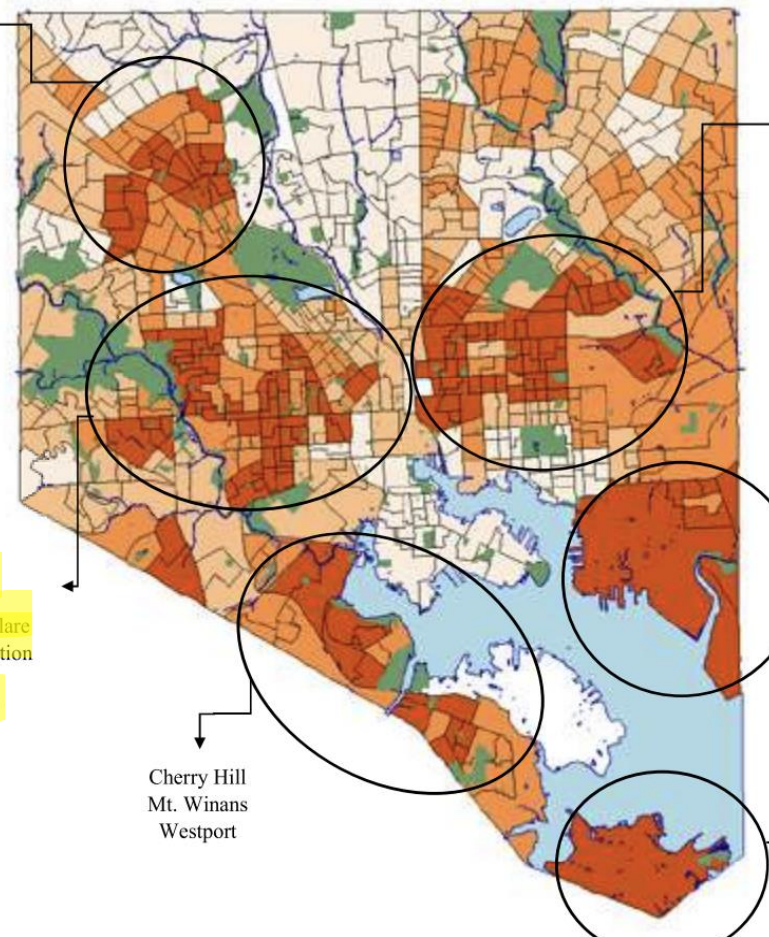
Continue support to Southwest Baltimore (SOWEBO) and advance community partnerships

---



# Analyze Barriers to Entry for SOWEBO Residents

- Callaway-Garrison
- Central Forest Park
- Central Park Heights
- Dorchester
- Forest Park Golf Course
- Langston Hughes
- Levindale
- Lucille Park
- Parklane
- Towanda-Grantley
- West Arlington



- Armistead Gardens
- Belair-Edison
- Biddle Street
- Broadway East
- Dunbar-Broadway
- Eager Park
- East Baltimore-Midway
- Four by Four
- Gay Street
- Johnston Square
- Madison-Eastend
- Milton-Montford
- Orangeville
- Oldtown
- Oliver

- Carrollton Ridge
- Franklin Square
- Franklintown Road
- Harlem Park
- Midtown-Edmondson
- Millhill
- New Southwest/ Mount Clare
- Northwest Community Action
- Rosemont
- Sandtown-Winchester
- Union Square
- Violetville
- Winchester

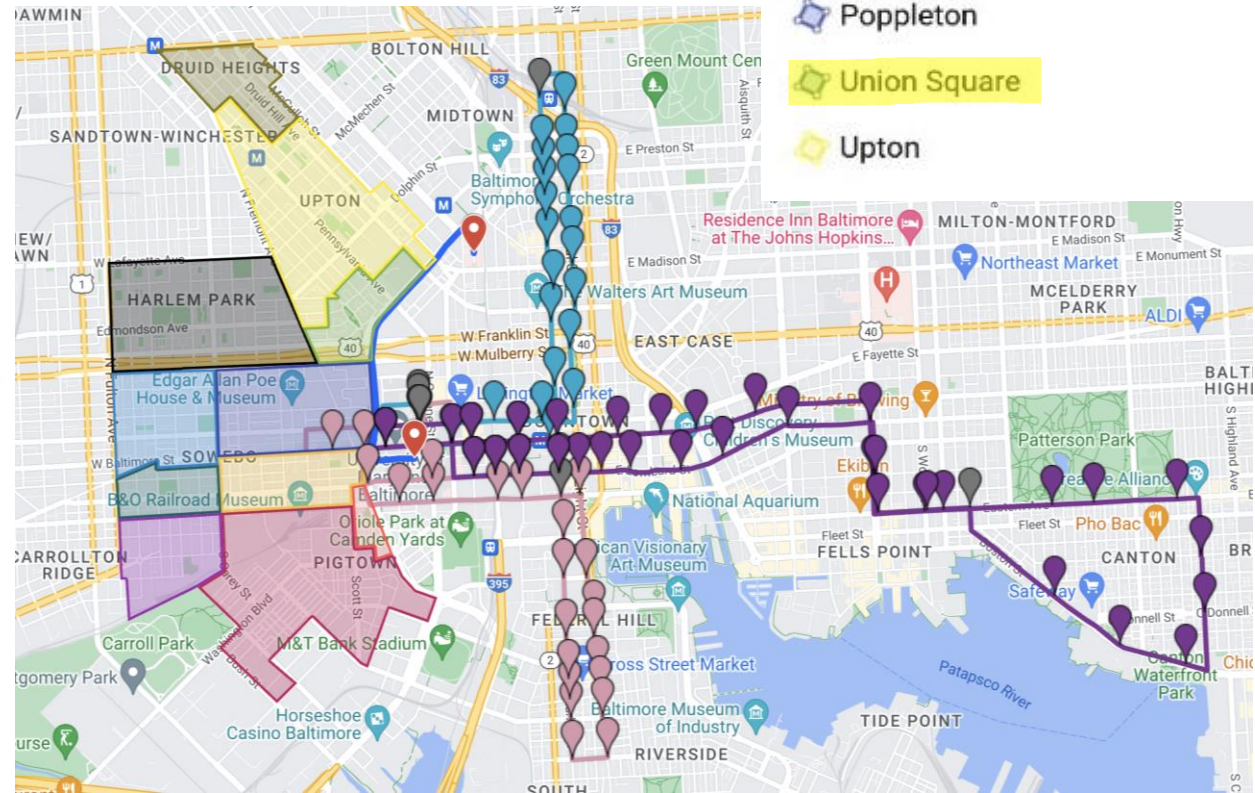
- Cherry Hill
- Mt. Winans
- Westport

Canton Industrial Area

Brooklyn Curtis Bay

## Neighborhoods

- Barre Circle
- Druid Heights
- Franklin Square
- Harlem Park
- Heritage Crossing
- Hollins Market
- New Southwest/Mount Clare
- Pigtown/Washington Square
- Poppleton
- Union Square
- Upton





# Expand Local Business Discounts and Local Procurement Initiatives

---





# Advance Partnerships with the Community Engagement Center

**Baltimore Colleges and Universities for a Sustainable Environment**



**Central Baltimore Partnership**  
Galvanizing the renaissance of Central Baltimore





# **Recommendation 3**

Continue supporting current staff, students,  
and faculty on campus

---

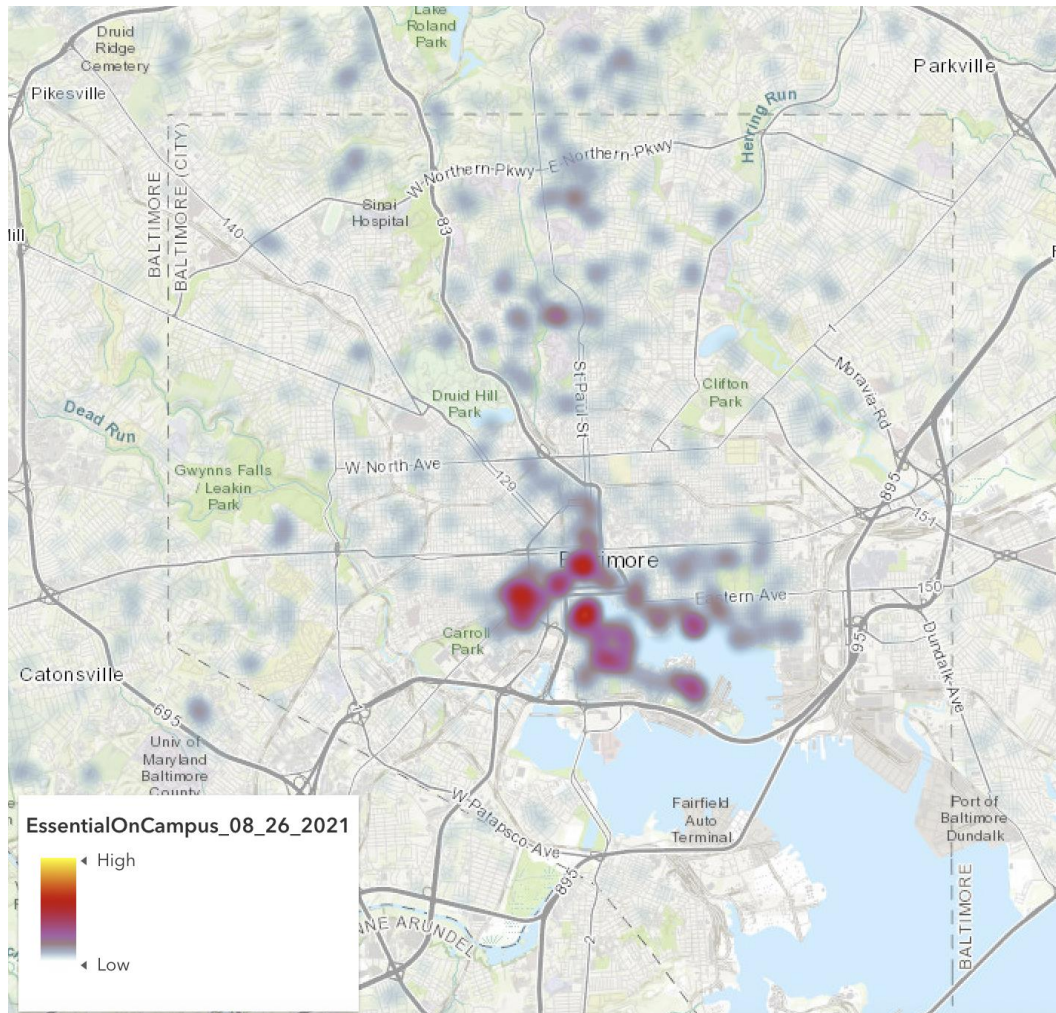


# Celebrate and Empower Our Staff Through Surveys and Resources

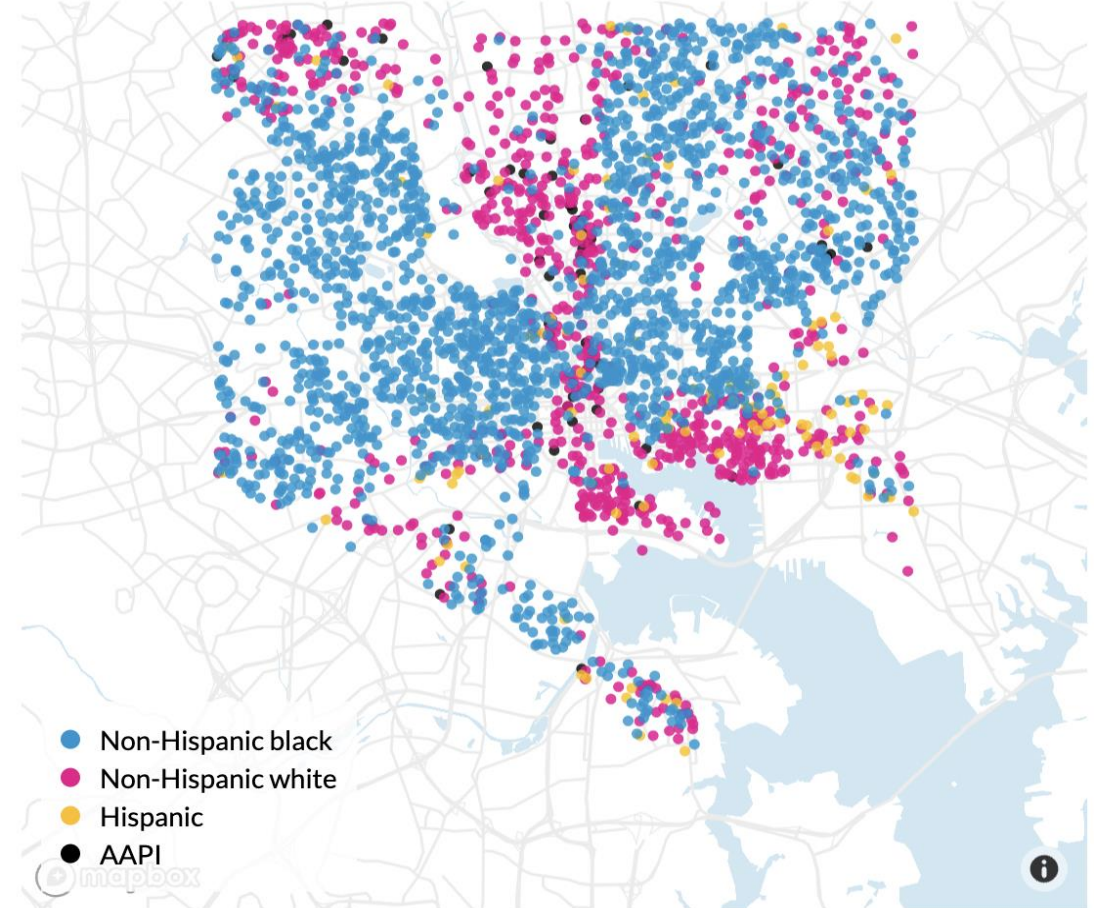




# Hold UMB Accountable to Commitments Including Hiring Local Talent



Population distribution of residents by race or ethnicity

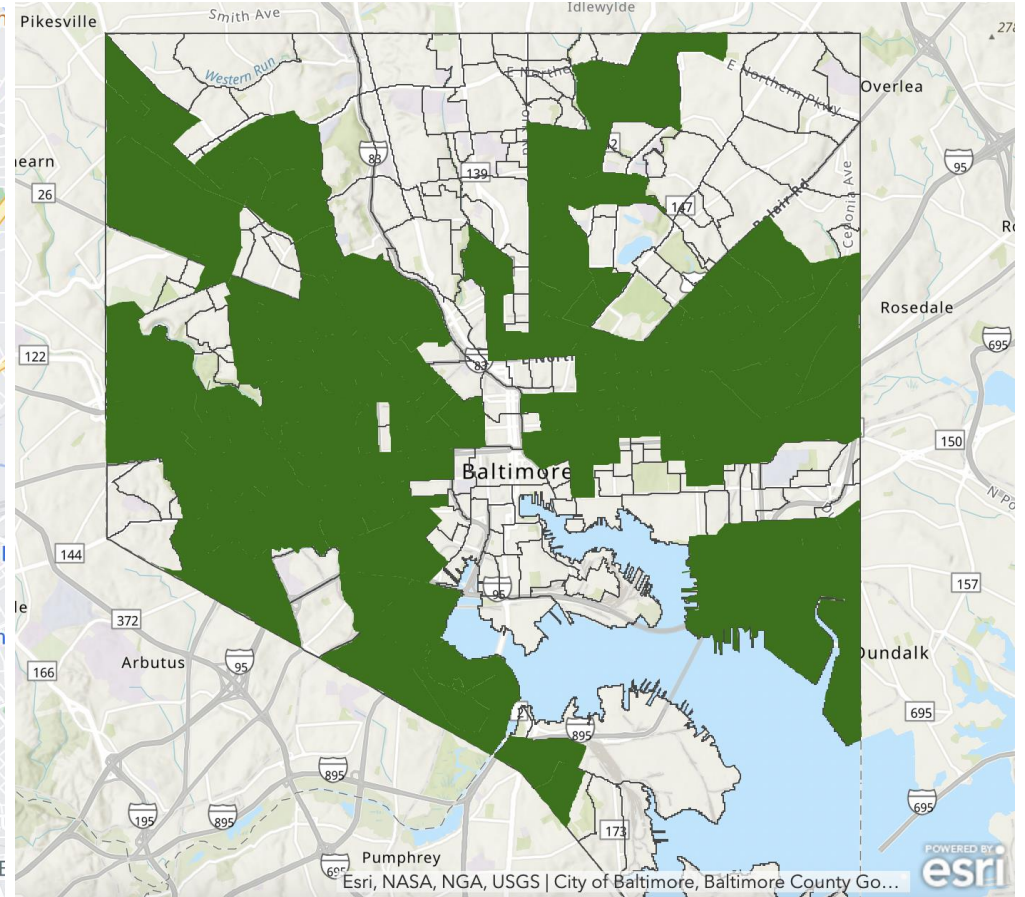
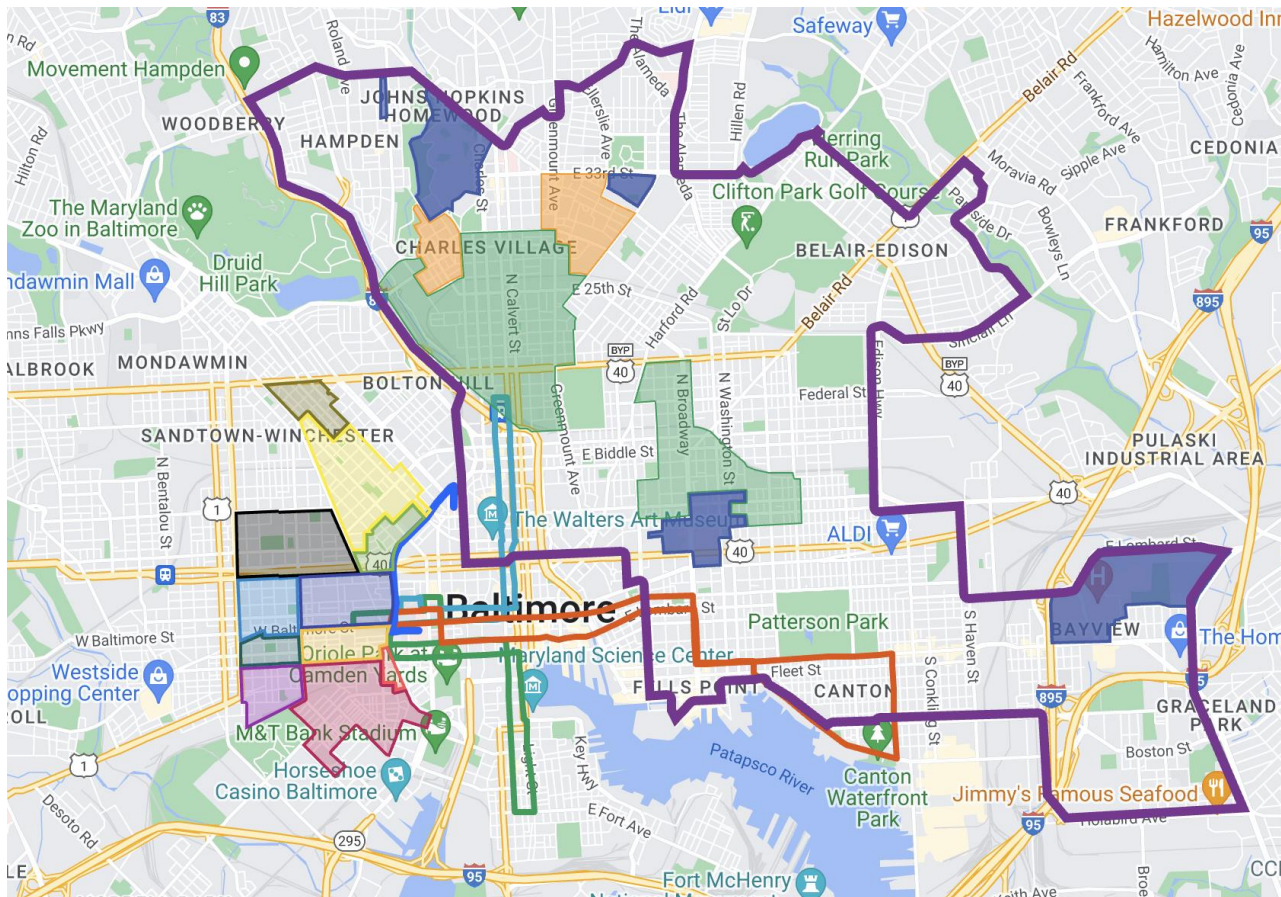


Source: 2012-16 American Community Survey data.

Notes: Each dot represents 200 residents. AAPI = Asian American and Pacific Islander.



# Expand Live Near Your Work and Promote Symbiotic Financial Opportunities





# Next Steps

---

- Present this report to people on campus that have helped me build this report
  - Reciprocally, this report can provide context and rationale to improve environmental justice conditions on campus
- Compile campus-wide surveys and engage departments to attempt to send surveys consistently each year to build and improve upon metrics
- Share this report electronically via newsletter and posted on UMB OS website
- Engage with specific departments on who will be responsible for acting upon these recommendations



***Thank you for  
viewing this  
presentation!***

***Special thanks to The HASI  
Foundation, Strategic Energy  
Innovations, The Office of  
Sustainability, and every  
person at The University of  
Maryland, Baltimore.***





# Sources:

- <https://www.usmd.edu/institutions/map/SystemMap.jpg>
- <https://mycollegeselection.com/wp-content/uploads/2020/01/Colleges-in-Maryland-Map-1024x547.png>
- <https://icic.org/blog/role-anchor-institutions-supporting-local-communities/>
- <https://2.bp.blogspot.com/-P1BeGkAxz-8/UmXGm-To6jI/AAAAAAAAADQ/1-kS8CBJEcw/s1600/lab7.jpg>
- <https://centralbaltimore.org/>
- <https://umpartnershipwithwestbaltimore.org/>
- <https://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=1cc479d2dc3948239f0c47bda8b6967a>
- <https://www.umaryland.edu/media/umb/president/future-of-work-task-force/FutureofWork-Committee-Report-2-2024.pdf>
- <https://www.wmar2news.com/news/local-news/righting-an-old-wrong-baltimores-highway-to-nowhere>
- <https://www.umaryland.edu/media/umb/hrs/2022-UMB-Staff-Experience-Survey-Presentation-8-2023---Handout.pdf>
- <https://bniajfi.maps.arcgis.com/apps/dashboards/de8d2f55435a4ff58ec80284ddd11fbf>
- <https://communitydevelopmentmd.org/digital-inclusion>
- <https://www.thebaltimorebanner.com/community/local-news/black-population-baltimore-PDCTFYIHJGFZNDATUWRJM/>
- <https://www.baltimoresun.com/2023/11/26/maryland-has-the-lowest-jobless-rate-in-the-nation-for-employers-in-a-challenge/>
- [https://www.richmondfed.org/region\\_communities/regional\\_data\\_analysis/regional\\_matters/2024/rm\\_03\\_07-24\\_nor\\_ylanders\\_migrating](https://www.richmondfed.org/region_communities/regional_data_analysis/regional_matters/2024/rm_03_07-24_nor_ylanders_migrating)
- <https://www.wmar2news.com/local/jpmorgan-chase-invests-millions-into-non-profits-to-stabilize-housing-supply-in-baltimore>
- <https://baltimoretimes-online.com/news/2024/06/14/jpmorgan-chase-deepens-commitment-to-baltimore-with-8-45-million-investment/>
- <https://apps.urban.org/features/baltimore-investment-flows/>
- <https://cityratings.peopleforbikes.org/cities/baltimore-md>
- [https://www.fs.usda.gov/nrs/pubs/jrnl/2013/nrs\\_2013\\_boone\\_001.pdf](https://www.fs.usda.gov/nrs/pubs/jrnl/2013/nrs_2013_boone_001.pdf)
- <https://www.healthdata.org/research-analysis/health-risks-issues/air-pollution>
- <https://www.healthdata.org/news-events/newsroom/news-releases/air-pollution-accounted-81-million-deaths-globally-2021-becoming>
- <https://www.nature.com/articles/s41370-018-0103-4#Abs1>
- <https://www.statista.com/statistics/1137375/air-pollution-deaths-united-states/>
- <https://www.hsph.harvard.edu/c-change/news/fossil-fuel-air-pollution-responsible-for-1-in-5-deaths-worldwide/>
- <https://www.umaryland.edu/about-umb/umb-fast-facts/>
- <https://icic.org/blog/role-anchor-institutions-supporting-local-communities/>
- <https://www.umaryland.edu/core-values/>
- <https://umbaltimore.maps.arcgis.com/apps/mapviewer/index.html?webmap=c1e49da56e054e96b7fe98732b0bd1da>
- <https://storymaps.com/stories/3c85014aabef45c9bcf2680ef0edf017>
- <https://www.baltimoremagazine.com/section/historypolitics/city-of-immigrants-the-people-who-built-baltimore/>
- <https://baltimoremd.com/charm/pointofentry.html>
- <https://www.baltimoremagazine.com/section/historypolitics/the-great-migration/>
- <https://cnsmaryland.org/2019/05/17/baltimore-clean-air-law-could-affect-maryland-landfills/>
- [https://bsec.21cc.jhu.edu/maps-data/weather-station-data/file:///Users/benjaminelash/Downloads/jhu-btec-transit-equity-report%20\(1\).pdf](https://bsec.21cc.jhu.edu/maps-data/weather-station-data/file:///Users/benjaminelash/Downloads/jhu-btec-transit-equity-report%20(1).pdf)
- <https://environmentalintegrity.org/wp-content/uploads/2017/12/Baltimore-Asthma.pdf>
- <https://dsl.richmond.edu/socialvulnerability/map/#loc=12/39.293/-76.633&city=baltimore-md>
- <https://dsl.richmond.edu/socialvulnerability/>
- [https://map.climatevulnerabilityindex.org/map/cvi\\_overall/tract-24510210200-pigtown-baltimore-md?mapBoundaries=Tract&mapFilter=0&reportBoundaries=County&geoContext=State](https://map.climatevulnerabilityindex.org/map/cvi_overall/tract-24510210200-pigtown-baltimore-md?mapBoundaries=Tract&mapFilter=0&reportBoundaries=County&geoContext=State)
- <https://www.tandfonline.com/doi/full/10.1080/24694452.2017.1365585#d1e507>
- [https://map.climatevulnerabilityindex.org/map/cvi\\_overall/tract-24510210200-pigtown-baltimore-md?mapBoundaries=Tract&mapFilter=0&reportBoundaries=County&geoContext=State](https://map.climatevulnerabilityindex.org/map/cvi_overall/tract-24510210200-pigtown-baltimore-md?mapBoundaries=Tract&mapFilter=0&reportBoundaries=County&geoContext=State)
- <https://culanth.org/fieldsights/curtis-on-the-bay-failed-development-and-the-mythology-of-urban-mar>
- <https://www.energyjustice.net/justice/>
- <https://internationalmapping.com/blog/a-brief-history-of-housing-segregation-in-baltimore/>
- <https://www.jhunewsletter.com/article/2021/05/how-has-hopkins-contributed-to-and-perpetuated-redlining-in-baltimore>
- <https://www.tandfonline.com/doi/full/10.1080/24694452.2017.1365585#d1e507>
- [https://insideclimatenews.org/news/28102024/johns-hopkins-model-climate-change-baltimore-3utm\\_source=InsideClimate+News&utm\\_campaign=a032877dbe-EMAIL\\_CAMPAIGN\\_2024\\_11\\_02\\_01\\_17&utm\\_medium=email&utm\\_term=0\\_29c928ffb5-a032877dbe-331171110](https://insideclimatenews.org/news/28102024/johns-hopkins-model-climate-change-baltimore-3utm_source=InsideClimate+News&utm_campaign=a032877dbe-EMAIL_CAMPAIGN_2024_11_02_01_17&utm_medium=email&utm_term=0_29c928ffb5-a032877dbe-331171110)
- <https://www.baltimoresun.com/2020/01/16/summer-is-hotter-in-baltimore-neighborhoods-that-have-seen-racial-redlining-and-the-difference-is-more-extreme-here/>
- <https://americanhealth.jhu.edu/sites/default/files/2021-03/Interim%20Transit%20Equity%20Report%20FINAL.pdf>
- <https://www.baltimoremagazine.com/section/foodrink/chef-competition-at-lexington-market/>
- <https://elm.umaryland.edu/announcements/2024/Citys-Buy-Back-the-Block-Grant-Program-Includes-Some-UMB-Live-Near-Your-Work-Nei>
- <https://livebaltimore.com/bbb/>
- <https://www.baltimoreniif.org/about/>