

APRIL 2018

ENVIRONMENTAL JUSTICE PLAN 2025



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Acknowledgements:

We would like to acknowledge the contribution of all graduate and undergraduate student researchers including Ayana Jones, Yewande Akinkuowo, Suhani Chitalia, Christopher Howard, Kester Williams-Parry, Wengiel Gugssa, Haley Mullen, Vivek Ravichandran, Michaela Stacy, and Ashley Bamfo; advocacy groups, and community-based organizations including the BTB Coalition, Port Towns Environmental Action, and 17 for Peace and Justice attendees in the development of this report.

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Executive Summary:

The Environmental Justice Plan (EJ 2025) provides a description of environmental justice issues in Prince George's County. The plan highlights environmental justice concerns in five priority areas. This report provides recommendations on how to advance environmental justice in the County including: 1) the use of the Maryland EJSCREEN tool to assess areas that may have environmental justice risks; 2) meaningful involvement of impacted stakeholders in local environmental decision-making by establishing a county-wide Commission on Environmental Justice; 3) institute a moratorium on all permitting, zoning, and development activities in the County until all agencies are in compliance with Title VI of the Civil Rights Act; and 4) ensure that all decisions are evidence-based using sound scientific practices.

Priority 1: Lead

Lead exposure presents a serious health concern when lead is ingested or inhaled via contaminated water, soil, or dust. Lead paint exposure also presents a serious public health concern throughout all of Maryland, as paint in housing complexes has been identified as the most prominent source of lead exposure for children in underserved areas. Soil contamination also threatens environmental health in the County, as many neighborhoods within close proximity to Superfund sites, Toxic Release Inventory (TRI) facilities, and power plants may contain soil with elevated levels of lead.

Priority 2: Water Quality

Water pollution presents a major challenge to environmental health in Prince George's County. Watersheds of three different rivers are present in the County- the Potomac, Patuxent, and Anacostia. The Anacostia river is considered to be one of the most polluted in the country, and has become a dumping ground for industrial and residential wastes. This presents a significant public health threat to the County particularly for subsistence fishers. These fish may contain elevated levels of mercury, lead, and polychlorinated biphenyls (PCBs), which can lead to cancer, liver disease, and developmental problems for its consumers.

Priority 3: Food Disparities

Food insecurity in Prince George's County is of deep concern to all community members. Nearly half of the county's residents live in a USDA-designated food desert, and over 15% are food insecure. This means there is differentia access to healthy and

affordable food options for many County residents. There are nearly four times as many fast food restaurants in the County as grocery stores. The lack of access to health-promoting food infrastructure is a major issue for many underserved African-American communities, such as Seat Pleasant/Capitol Heights, where recent closures have undermined food security.

Priority 4: Cumulative Impacts of Environmental Hazards

In the County, exposure to airborne particulate matter and ground-level ozone, harmful air pollutants, can lead to adverse health outcomes including asthma and heart disease. The County has a number of environmental hazards including 14 TRI facilities, 6 brownfields, and 5 power plants. Low-income groups and communities of color are vulnerable to these hazards. Populations who live in Brandywine and Bladensburg are overburdened by major and minor pollution sources increasing their exposure and health risks.

Priority 5: Zoning and Equitable Development

The County's Comprehensive Plan mentions a number of health issues but does not address environmental injustice and environmental health disparities. Special exceptions to zoning standards have been abused in the County; while zoning officials do not use sound science or evidence or recognize environmental justice issues as valid concerns in their decision-making process. The County needs to require health impact assessments (HIAs) as part of all zoning decisions and implement the equitable development framework and Environmental Benefits Districts (EBDs) to make all communities greener, healthier, more equitable, and more sustainable.

Conclusion

With these priorities in mind, EJ 2025 offers a roadmap for stakeholders in Prince George's County to holistically improve environmental health for everyone particularly overburdened and underserved residents. The plan outlines specific goals and strategies aimed at mitigating the differential burden of environmental hazards and health risks on certain populations in the County, which will promote overall public health and environmental justice. Given the extent of the aforementioned environmental concerns, this task will require collaboration among a variety of partners- community leaders, local residents, government officials, advocacy groups, health practitioners, and academia.

ENVIRONMENTAL JUSTICE PLAN 2025

Prince George's County

I. OVERVIEW ON ENVIRONMENTAL JUSTICE

HISTORY:

The US Environmental Protection Agency (USEPA) defines environmental justice as:

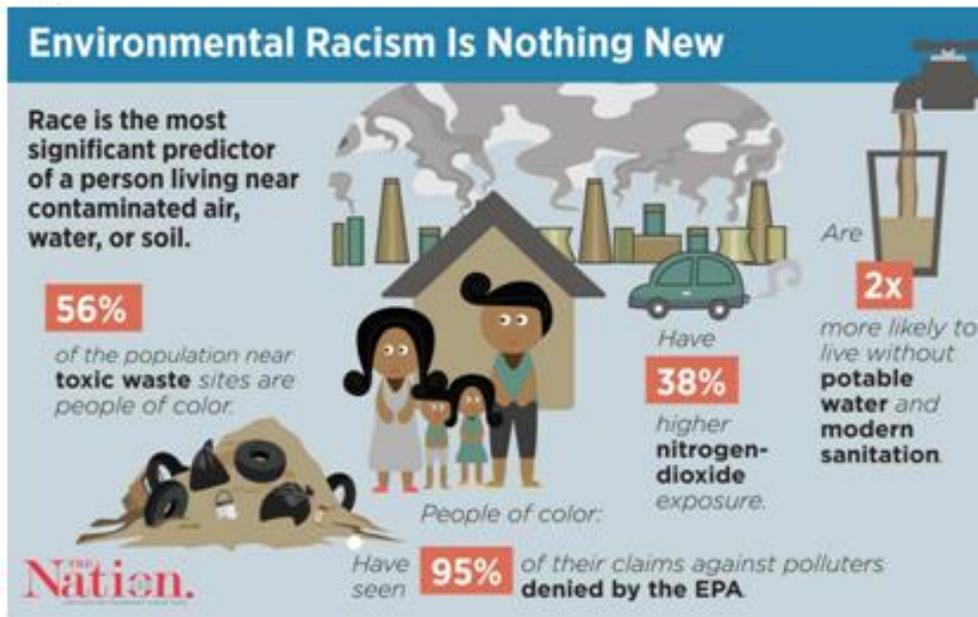
“the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”

Accordingly, Professor Bunyan Bryant explains environmental justice as, “equal protection from environmental and public health hazards for all people regardless of race, income, culture and social class.” While environmental justice is not emphasized in Prince George’s County, there is growing concern regarding poor air and water quality, lack of access to affordable healthy food and housing, and the cumulative impacts of social, economic, and environmental stressors on the health of County residents. Additionally, there is a demand for an active focus to protect the health and well-being of current and future generations of Prince George’s County. The legal foundation for environmental justice in the United States was established through Executive Order 12898, signed by President Clinton in 1994, requiring federal agencies:

“to identify and address the disproportionately high and adverse human health or environmental effects of their actions on people of color and low-income populations, to the greatest extent practicable and permitted by law.”

The Executive Order further directs each agency to develop a strategy for advancing environmental justice. Federal agencies have developed environmental justice plans, and many are working towards integrating environmental justice principles within their programs, practices, and activities. Multiple agencies have strengthened or established partnerships around environmental justice with other federal entities to fulfill the Executive Order mandate. Federal agencies with an environmental justice plan or strategy include the US Environmental Protection Agency (USEPA), Department of Health and Human Services, Department of Housing and Urban Development, Department of Energy, Department of Transportation, and the US Department of Agriculture. Although the state of Maryland does not have an environmental justice plan in place, the Maryland Commission on Environmental Justice and Sustainable Communities has taken an active role on environmental justice in the state, and has supported environmental justice activities throughout Maryland. The Prince George’s County Environmental Justice Plan 2025 (EJ Plan 2025), supports implementation of *Prince George’s County Plan 2035*. This plan is focused on making Prince George’s County, “a competitive force in the regional economy, a leader in sustainable growth, a community of strong neighborhoods and municipalities, and a place where residents are healthy and engaged.” However, the Prince George’s County Plan 2035 does not include policies related to local environmental justice issues.

Figure 1



Source: The Nation

The USEPA states that environmental justice is achieved “when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.” Predominantly white, affluent neighborhoods receive rapid response and more

government involvement. In contrast, poverty stricken communities comprised mainly of people of color are often ignored.

EJ Plan 2025 raises awareness about environmental justice issues in the County, and fosters enhanced coordination across County agencies to address environmental hazards in the social and physical environment. EJ Plan 2025 offers strategies and recommendations on the integration of environmental justice principles into all practices and policies. This plan describes five environmental justice priorities for Prince George’s County: 1) lead, 2) water quality, 3) air quality, 4) food security, and 5) equitable development/zoning. Furthermore, the plan outlines strategies to engage the community and other stakeholders while identifying overarching themes that would undergird actions that should be taken to address each of the five environmental justice priorities.

Economic development remains a priority for the County, and the integration of development, environmental, health, and planning policies are essential to the economic growth of the county and the health and well-being of its residents. The Prince George’s County Economic Development Corporation (EDC) has a lead role in this regard by working with the Departments of Environment, Health, and Planning. This proposed plan provides recommendations to enhance local planning, zoning, permitting, and development regulations, to establish programs and policies to address exposure to pollutants and toxicants, and to implement assessment tools to monitor cumulative impacts of environmental hazards and locally unwanted land uses (LULUs). The integration and coordination of activities to promote safe and healthy environments in the County is a shared responsibility of agencies who have purview over energy, transportation, health, housing, planning, and the environment.

THEMES:

There are **six** overarching themes in this EJ Plan which underscore the critical elements that are necessary to

VISION

We envision Prince George’s County as a region where residents in all communities have an equitable opportunity to live, work, learn, worship, and play in social, natural, and built environments that promote healthy lifestyles, free of environmental hazards.

PRIORITY AREAS:

- Lead**
- Water Quality**
- Food Disparities**
- Air Quality**
- Zoning and Equitable Development**

support the plan's implementation, and fulfillment of the identified goals. Environmental justice is an issue that is not well understood among County residents and officials. Emphasis on these themes will help ensure that environmental justice becomes a county-wide priority that involves participation of all communities in working towards health promotion and moving away from inequitable development and overburdening of marginalized populations. These themes underlie the recommendations presented in this document to address the environmental justice priorities identified in Prince George's County.

1. INTEGRATE ENVIRONMENTAL JUSTICE INTO ALL COUNTY-WIDE POLICIES

Environmental justice is closely tied to health disparities in that low-income, and some communities of color are often differentially burdened by environmental hazards and have high exposure to pollution emissions. Consequently, this leads to an excess burden of illness and disease. Institutionalized racism and discrimination have been closely tied to the social and economic disadvantage experienced by low-income and economically underserved populations. Furthermore, these communities are often disproportionately used as environmental sinks to host locally unwanted land uses (LULUs).

2. BUILD A CULTURE OF COMMUNITY PARTICIPATION, EDUCATION, AND OUTREACH

Meaningful community involvement is pivotal in the decision-making process. Sharing information about new projects with potential environmental health implications allows grassroots organizations to gain a better sense of the project's impacts. Furthermore, planning community events and activities generates interaction and engagement. Engaged communities can help ensure that programs, policies, services, and infrastructure are designed to meet the needs of those who will be most impacted by development. A *community needs assessment* is a critical step in the planning process, as it adds value in identifying issues of concern, and determining potential solutions. Through outreach, communities are kept informed of important environmental matters. Furthermore, education empowers residents with crucial information to understand issues regarding environmental justice, so they can provide meaningful input into plans, policies, and activities related to environmental justice and health. Fundamentally, it is important to note that community participation is required in planning healthy, equitable, and sustainable communities.

3. PROMOTE INTERAGENCY AND INTRA-AGENCY COORDINATION

Environmental justice is rooted in the interplay between social and environmental factors that affect health. It cuts across several sectors and disciplines including science, policy, advocacy, education, housing, transportation, planning, and agriculture. Coordination across County agencies is essential in addressing environmental health issues. A critical factor in coordination is the education and training of County employees on the environmental justice framework and health equity principles. In addition, it is essential for County agencies to incorporate environmental justice into their mission statement, goals, operations, programs, activities, procedures, regulations, and personnel evaluation. Use of the health impact assessment (HIA) framework should also be employed in all agency decisions, regulations, and projects moving forward.

4. COLLABORATIONS AND PARTNERSHIPS

Collaborations and partnerships between the public and private sectors, including local community-based organizations, allow the County to leverage resources, expertise, services, and tools to protect the health of the its underserved and overburdened communities from both existing and potentially negative effects of environmental hazards.

5. PROMOTE EVIDENCE-BASED DECISION-MAKING

There is a need for accurate scientific data to support informed environmental decision-making. The use of best practices can be effective in solving existing and emerging environmental justice and health problems. Research collaborations with research institutions in the County can strengthen the research and data collection infrastructure. It will also facilitate a systematic use of health impact assessments and other evidence-based approaches as a part of County-wide planning and development activities.

6. LEADERSHIP AND ACCOUNTABILITY

Competent and committed leadership at all levels will facilitate the advancement of environmental justice. The establishment and implementation of accountability measures, as well as ongoing assessment, education, and training of County employees related to environmental justice and health issues, are important in achieving the County's environmental justice goals. An interagency working group can play a key role in leading

Assessment, 2016). Furthermore, the rate of death from chronic disease in Prince George's County is higher than not only other Maryland counties, but the entire state and the nation as well. Residents in Prince George's County are less likely to exercise and more likely to smoke and face obesity compared to residents in neighboring counties (Lurie et al., 2009). In 2014, 13% of residents were not enrolled in a form of health insurance (Lurie et al., 2009). In addition, 24% of residents reported delaying medical care due to a lack of transportation (Lurie et al., 2009).

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH

Social and environmental factors drive health inequities in underserved communities. The social and physical environment can either enable health promoting behaviors, or promote danger by facilitating poor health risks due to differential exposure to pollutants in the air, water, soil, and food (Stokols, 1996). People of color and low-income populations are more likely to live near industrial sites and hazardous waste sites (Mohai & Saha, 2015a,b). These areas release harmful chemicals, pollute the environment, and contaminate water with microbial waste and other dangerous pollutants (Jennings & Gaither, 2015; Wilson et al., 2008). Chronic conditions such as heart disease, obesity, and asthma, have been associated with excessive exposure to environmental hazards, poor air quality, unhealthy housing, and lack of space for physical activity (Gomez et al., 2015; Laumbach & Kipen, 2012). People with existing health conditions are a greater risk of exacerbation of these conditions due to exposure to environmental hazards such as traffic-related air pollution, pesticides, metals, or runoff that pollutes local streams and rivers.

BUILT ENVIRONMENT

Place and context matter when addressing health concerns in all communities including communities impacted by environmental injustice and related disparities. The built environment influences health as it relates to the availability of walkable space and parks for community members to engage in physical activity. The built environment also includes accessibility to transportation, healthy food, and medical services. Related to the built environment, zoning is an important determinant of health as it impacts the design of communities and neighborhoods as pathogenic or salutogenic spaces that either promote healthy or unhealthy behaviors. Twenty percent of residents face severe housing problems due in part to the lack of affordable housing

in the County. Prince George's County is currently rewriting its zoning plan to make sure the plan is more understandable, implementable, and enforceable. The County needs a zoning plan that does not allow industrial sites and other polluting businesses to operate in underserved and low-income communities. A zoning plan that focuses on social equity and health equity.

Case Study: Bladensburg

Bladensburg is a small town, comprised of 9,608 residents located outside of Washington, DC. This community has an average low median household income of \$44,125 and a poverty rate of 20.3%. Bladensburg residents are primarily people of color, with 51.9% African American and 31.7% Hispanic. The town has dense, heavy traffic along with numerous industrial sites within the radius of the town. In addition, there is a proposed concrete batching plant to be built within Bladensburg, further exacerbating pollution levels in the community. The current concrete block plant has been in operation for over 90 years, yet, there have been no on-site assessments of contamination or monitoring of air pollution including diesel particulates at or near the site. This site presents a public health threat to local residents, particularly vulnerable populations such as children, the elderly, and individuals with underlying health issues such as asthma or heart disease.

FOOD DISPARITIES

71% of Prince George's County's food outlets are fast food

The U.S. Department of Agriculture defines food security as: “access by all people at all times to enough food for an active, healthy life”. In Prince George’s County, food insecurity is a focal issue. The county only has 82 supermarkets to serve more than 800,000 people (Johns Hopkins Center for a Livable Future, 2014). In most communities, residents lack access to fresh fruits, vegetables, and other healthy foods. A food swamp is an area where there is an overabundance of fast foods relative to healthy food. Among the County’s food outlets, 71% are considered fast food establishments (Prince George’s County Plan 2035). Approximately 14% of the County’s residents live more than one mile away from a supermarket or do not have access to healthy foods (Cohen et al., 2010). This creates food deserts in parts of the County, which isolates communities from access to healthy foods. In turn, members of the community often have poor diets and are at an increased risk for obesity and other nutrition-related diseases (Sahoo et al., 2015).

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County’s

Figure 3



Source: Daily Mail

LEAD AND OZONE

Lead has traditionally been used in house paint, gasoline, and solder on water pipes, all of which were banned in 1995 (“Lead: Versatile Metal”). Yet, lead remains a public health challenge due to water contamination, soil contamination, and exposure from paint. Moreover, children with high levels of lead in blood can face brain injury, lower IQs, aggressive behavior, hearing loss,

and psychological and cognitive disorders (Liu & Lewis, 2014). Due to the vulnerability of children to the aforementioned ill effects of lead exposure, the Center for Disease Control and Prevention (CDC) has set a blood lead level limit of 5 µg/dL in children under six years of age, and in 2016, the state of Maryland had issued new blood lead level testing guidelines for children within this age group (CDC, 2017).

Like lead exposure, air pollution is also a major threat to the health of Prince George's County residents, due to particulate matter and ground-level ozone. According to the 2016 County Health Rankings report, Prince George's County has an average level of 9.9 µg/m³ for particulate matter compared to the national average of 6.7 µg/m³. Black residents also have higher incidence and mortality rates for breast, colorectal, and prostate cancers than their White counterparts (O'Keefe et al., 2015). From 2010-2012, there were 18.5 asthma hospitalizations per 10,000 Black residents aged 18 and older, compared to 7.0 per 10,000 White residents and 6.6 per 10,000 Asian or Pacific (Prince George's County Community Health Department, 2016). The same report also reveals a higher rate of visits to the emergency department for heart disease among Black residents; however, the mortality rate is higher among White residents (Prince George's County Community Health Department, 2016). Additionally, data shows a higher rate of hospital inpatient visits due to diabetes for Black residents vs. White residents at 36.0 and 16.2 hospitalizations per 10,000 adults, respectively. Though prevalence of diabetes is similar between White and Black residents at 13.7% and 13.4%, the condition is a leading cause of death among Black residents while stroke is a major culprit for early mortality among White residents (Prince George's County Community Health Department, 2016).

TOXIC RELEASES

In 2016, Prince George's County released 232,827 pounds of both on-site and off-site waste into the air, water, and soil (US EPA, 2016). This was the second highest total in the state of Maryland, trailing only Baltimore City which released 693,880 pounds (US EPA, 2016). Some of the top releases in Prince George's County were sulfuric and hydrochloric acid (known as "acid aerosols"), n-hexane, hydrogen fluoride, and ammonia (US EPA, 2016). However, the figures presented in the TRI report are only based on what facilities are required to report to the US EPA so actual release totals may be higher than what is provided. The County also has six

known brownfields: 1) Wilson Farm site, 2) Addison Road Dump site, 3) Haverford Homes Property 4) Hampton Business Park, 5) Vermiculate WRG1, and 6) Industrial Towel Supply, Inc., a Subsidiary of G & K Services (EPA EJSCREEN, 2017).

ACCOMPLISHMENTS:

Government officials in Prince George's County recognize environmental health as an important issue to address in the future development of the County. *Plan 2035 Prince George's*, is the County's 20-year plan to give Prince George's County the competitive edge in the regional economy. The plan aims to make the County a leader in sustainable growth, showcase it as a community of strong neighborhoods and municipalities, and emphasize it as a place where residents are healthy and engaged. The plan provides recommendations in eight areas, several of which have implications for environmental justice and the health of the County's residents depending on the development and effective implementation of programs and policies. The elements in *Plan 2035* that most closely align with the EJ Plan 2025 environmental justice priorities include:

- 1. LAND USE:** Direct future growth toward transit-oriented, mixed-use centers in order to expand our commercial tax base, capitalize on existing and planned infrastructure investments, and preserve agricultural and environmental resources.
- 2. ECONOMIC PROSPERITY:** Create a diverse, innovative, and regionally competitive economy that generates a range of well-paying jobs and strategically grows the tax base.
- 3. TRANSPORTATION AND MOBILITY:** Provide and maintain a safe, affordable, accessible, and energy efficient multimodal transportation network that supports the county's desired land use pattern and Plan 2035 goals.
- 4. NATURAL ENVIRONMENT:** Preserve, enhance, and restore our natural and built ecosystems to improve human health, strengthen our resilience to changing climate conditions, and facilitate sustainable economic development.
- 5. HOUSING AND NEIGHBORHOODS:** Provide a variety of housing options—ranging in price, density, ownership, and type— to attract and retain residents, strengthen neighborhoods, and promote economic prosperity.

6. **COMMUNITY HEALTH:** Create safe, connected communities that promote active lifestyles and provide convenient access to healthy foods.
7. **PUBLIC FACILITIES:** Enhance the quality of life and economic competitiveness of Prince George's County through the efficient, equitable, and strategic siting of education, public safety, water and sewer, solid waste, and parks and recreation facilities.

Figure 4



The County has several assets that are important to consider in implementing the EJ 2025 Plan, including the University of Maryland System's flagship campus in College Park; the Patuxent Wildlife Research Center; the planned \$650 million Dimensions Regional Medical Center; 15 underutilized Metro rail stations, the future Purple Line light rail; and the Health Enterprise Zone. In addition, the Prince George's County Department of Health's *Health Improvement Plan 2012-2022*,

identifies two priorities relevant to environmental health which lays the foundation for the department to be a primary leader in promoting environmental justice issues in the County. The priorities are:

1. **PRIORITY 5 (PHYSICAL SAFETY):** Ensure that Prince George's County physical environments are safe and support health, particularly in at-risk communities; and
2. **PRIORITY 6 (SOCIAL SAFETY):** Ensure that Prince George's County social environments are safe and support health

CONCLUSIONS:

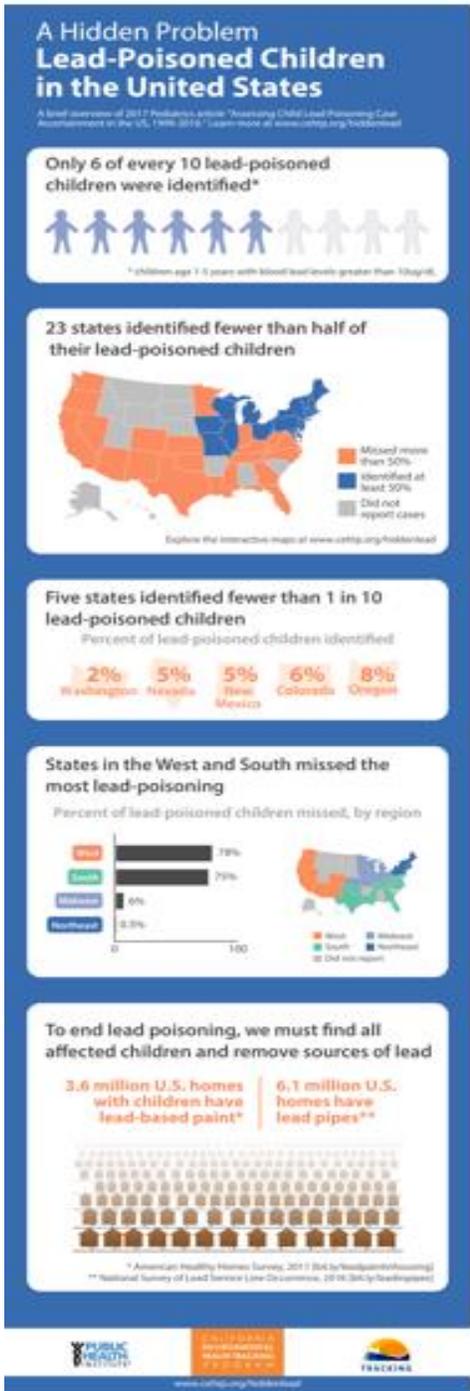
It is evident that there are mechanisms and tools available to advance environmental justice efforts in Prince George's County. A major approach to institutionalize and achieve environmental justice is interagency cooperation and involvement. A primary goal of all County agencies should be to promote and fund environmental justice initiatives while involving community members. Growing the County in a sustainable, efficient, and just manner is possible with a well-developed plan and sound implementation of the plan and enforcement of relevant rules and regulations.

II. Prince George's County Environmental Justice Priorities**PRIORITY I: LEAD**

Lead can be transported into the body in a number of ways. It can be inhaled, swallowed, or absorbed when particles are small enough (WHO, 2017). Regardless of the method of entry, the effects are equally dangerous. Lead is absorbed and stored in our bones, blood and tissues (NIOSH, 2017). As we age, our bones demineralize, releasing larger amounts of lead from the bone tissue (NIOSH, 2017). This is especially dangerous for women who are pregnant whose previous exposure to lead can lead to prenatal exposures for developing fetuses. In addition, exposure to lead can increase blood pressure for women undergoing menopause (Nash et al., 2003).

Lead and lead compounds can be found in all environmental media including, air, soil, water, and even inside our homes in dust. The majority of lead exposure stems from human activities such as combustion of fossil fuels with lead, emissions from industrial facilities, and past use of lead-based paint in homes (USEPA, 2017). Indoors, lead can be found in paint, ceramics, pipes, plumbing, materials, solders, gasoline, batteries, ammunition and cosmetics (Nieboer et al., 2013).

Figure 5



Generally, children are the most susceptible population to health risks involving lead because the resulting issues with cognitive functioning, behavioral problems, and lowered IQ may interfere with their learning capacity and outcomes (Bianchi, 2015). Children may not be able to perform well on standardized tests or cannot concentrate in class, compared to some of their unaffected peers. One study found a positive correlation between lead exposure and the probability of performing below average on standardized tests for third grade students (Aizer et al., 2018). We can link the differential exposure to lead with disparities in learning outcomes and educational attainment (Aizer et al., 2018). As children grow into working adults, they may be unable to develop the necessary skills or obtain credentials needed to advance in their professions. These impacts across their life course can be linked to lead exposure; they ultimately are victims of environmental injustice.

In addition to neurocognitive and neurobehavioral effects, exposure to high levels of lead can also cause health problems such as anemia, kidney and brain damage (CDC, 2017). Individuals who have been exposed to lead for prolonged periods are in danger of high blood pressure, heart disease, and reduced fertility (CDC, 2017). There is also an increased risk in pregnant women as concentrations of lead can be transferred, via placenta, to the developing fetus and also contribute to miscarriages and stillbirths (CDC, 2017; Chen et al., 2014).

Source: Public Health Institute

LEAD IN PRINCE GEORGE'S COUNTY:

In 1986, the US EPA banned the use of lead solder in water pipes (USEPA, 2017). As a result, homes and buildings built prior to 1986 may still have lead pipes (USEPA, 2017). An estimated 11% of homes in Prince George's County were built before 1950 (HealthGrove, 2017). Lead from lead pipes can leach into water due to corrosion and if these lead pipes are left untreated, they can result in poor health especially for vulnerable populations such as children and the elderly (WHO, 2006). In Prince George's County Public Schools (PGCPS), 90% of 2,600 samples of water were found to be at or above 20 parts per billion (ppb) of the EPA's action level for lead in 2004 ("Water Quality Program," 2017).

There were 88 public schools in Prince George's County identified as having elevated levels of lead in their drinking water. In 2009, 30% of 17,406 samples were found to be at or above the 20 ppb EPA action level ("Water Quality Program," 2017). Elementary schools, including but not limited to Brandywine Elementary School (ES), Capitol Heights ES, and Beltsville ES had their water fixtures turned off due to the presence of lead. In 2004, PGCPS initiated a four phase Water Quality Program. The Water Quality Program's goal is to improve the quality of water sources in the United States and its territories. The first three phases were completed in 2016, with phase 4 starting in 2017 ("Water Quality Program," 2017). Sampling and testing increased

**28 zip codes
were identified
as being at risk
for lead
exposure**

during phases 1-3, and during the final phase the County expects to take any water fixtures out of service that does not meet the EPA-recommended standard after remediation is conducted ("Water Quality Program," 2017). In November of 2016 at Glenridge Elementary School, and in February 2017 at Ardmore Elementary School drinking water was found to be contaminated as a result of high lead levels (Taylor, 2017). As a result, there is a need for continuous testing of water sources, flushing, and replacement of fixtures.

**88 public schools
in Prince
George's County
had lead levels
higher than the
EPA standard in**

Across the state of Maryland, lead paint in housing complexes is a principal source of lead exposure for children who reside in low-income and underserved neighborhood (Broadwater &

Wheeler, 2015). State regulations require landlords to register apartments with potential lead paint hazards with the state, and to obtain and pass state inspection for lead dust, peeling or flaking paint, before renting vacant apartments (Wheeler, 2015). According to the Baltimore Sun, many apartments are not in compliance with lead paint mitigation standards due in part to an inadequate number of state housing inspectors (Broadwater & Wheeler, 2015).

In March 2016, the state of Maryland implemented new clinical requirements for blood lead level testing in children at ages 12 and 24 months (DHMH, 2015). The state declared that all children born after January 1, 2015 are at risk for lead exposure (DHMH, 2015). In Prince George's County, 28 zip codes were identified as being at risk for lead exposure under the previous guidelines and the current requirements (DHMH, 2015). Elevated blood lead levels are considered as: (a) a blood lead level of 10 micrograms per deciliter or greater; or (b) a blood lead level of 5 micrograms per deciliter or greater for a blood test performed after March 28, 2016 (DHMH, 2015). On average 0.27% of children under 3 in Prince George's County have blood lead levels of 10 µg/dl or more (HealthGrove, 2018). Soil contamination through lead exposure occurs on land with dated plumbing pipes, areas near industrial sources of lead, farms that used pesticides containing lead arsenate, or land with leaded fuels. Lead accumulates on the outer eight inches of soil and generally does not move without proper remediation. There are no legal regulations for soil lead levels. The current US EPA recommendation is to avoid growing vegetables in soil with a total lead level above 400 ppm. While the average lead level in Prince George's County soil and sediment is 63 ppm which is below the EPA 400-ppm limit, there are areas of the County near Superfund sites, power plants, and TRI facilities, where the soil may exceed USEPA standards due to legacy contamination and emissions from environmental hazards. Individuals living near a LULU could be exposed to other toxic metals as well.

LEAD GOALS:

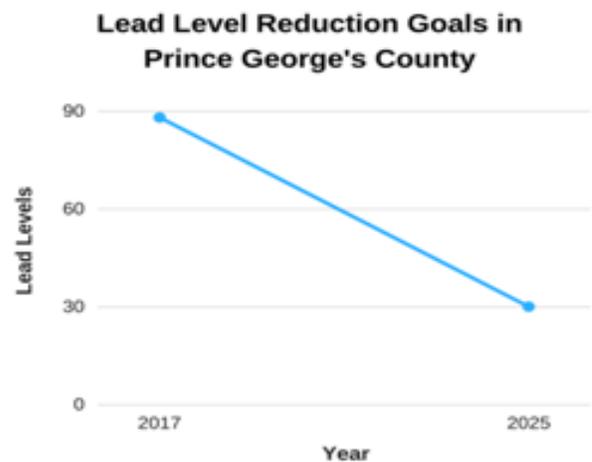
- Ensure timely implementation of the new Maryland blood lead level guidelines for children in all communities across the County, particularly in low-income neighborhoods with older housing stock
- Collect baseline data to identify homes at risk for lead exposure due to old plumbing systems
- Ensure water testing throughout the County is completed and consistent with the Safe Water Drinking Act (SDWA) requirements

- Enhance community awareness surrounding lead exposure and the County's efforts to ensure the availability of safe water
- Reduce levels of lead in soil and sediment in neighborhoods, near schools, in and around gardens, and in or near other sites with vulnerable groups from 63 ppm to <25 ppm by 2025

STRATEGIES:

- Foster collaboration and coordination between the Department of Health, the Department of the Environment, and the Prince George's County Public School System to ensure children in all communities are tested for blood lead levels according to requirements established by the Maryland Department of Health
- Provide funding to train community members on how to test for lead in their homes, dust, and soil
- Provide funding to hire and train community members as state housing inspectors assigned to Prince George's County to conduct timely inspections
- Provide vouchers or grants for individuals to upgrade old pipes in their homes
- Develop and implement County standards for testing water systems on a regular basis
- Establish and implement guidelines to take immediate action to address any water contamination issues when identified
- Conduct county-wide assessment of pipes in the public-school system and upgrade old water pipes
- Increase County level appropriations to support the reinvestment of water system infrastructure and identify other sources of funding
- Increase awareness in the County about identifying and replacing lead pipes

Figure 6



- Collaborate with drinking water suppliers to ensure that appropriate corrosion inhibitors are added to the water supply to prevent pipes from leaching lead
- Create measures to obtain baseline data on number of homes that still contain lead pipes
- Establish a taskforce to review the progress of the Water Quality Program Plan, and to update the plan with specific steps to complete and expand, if necessary, the final phase
- Taskforce membership will include senior leaders at the Prince George's County Public School System, Washington Suburban Sanitary Commission, Prince George's County Health Department, Prince George's County Advocates for Better Schools, and representatives from the Prince George's County community
- Provide funding for filtered water refill stations for all schools in the County
- Maintain ongoing communication with the community on lead exposure issues through alerts, annual progress reports, social media and community forums
- Work with the Department of Housing to develop a plan for homes built before 1978, which may contain lead based paint to improve old pipes and decrease health risks from lead exposure
- Develop a Lead Poisoning Checklist to help determine if a family is at risk for lead poisoning
- Monitor the effectiveness of programs developed by County and State agencies such as the Maryland Department of Environment Lead Poisoning Prevention Program

METRICS

- By 2025, reduce the number of children in the County with elevated blood levels by 25%
- By 2019, collect baseline data on the number of homes including apartments in the County with lead-based paint
- By 2025, reduce the number of homes and apartments with lead-based paint by 25%
- Reduce the amount of lead in Prince George's County Public Schools to a level below the EPA's 15 ppb action level
- By 2025, reduce the number of Prince George's County Public Schools that exceed the allowable lead levels from 88 to 30

PRIORITY II: WATER QUALITY

On average, each person consumes 80-100 gallons of water each day (USGS, 2016). Moreover, water provides an easy route of exposure to hazardous substances. The presence of contaminants in water can lead to possible negative acute or long term health effects.

Drinking water outbreaks have been linked to runoff and more than half of the documented waterborne disease outbreaks since 1948 have followed extreme rainfalls (Gaffield et al., 2003). In addition, it is recognized that the vast majority of waterborne disease cases go unreported because of difficulties in diagnosing the cause of the illness (Gaffield et al., 2003). Approximately 99 million people in the United States have acute gastrointestinal illnesses each year, at a cost of billions of dollars (Gaffield et al., 2003). It is estimated that 6-40% of these illnesses may be caused by contaminated drinking water (Gaffield et al., 2003).

Community design has a major effect on stormwater volumes and quality, as well as treatment methods and costs. To calculate the volume of stormwater that can run off into local rivers and streams, we must consider the total area of impervious surfaces in a community and the degree of connection between impervious surfaces and the storm drainage system (USGS, 2016). Urbanization of landscapes adds greater stress on water resources by expanding the area covered by impervious surfaces that shed virtually all rainfall and snowmelt (USGS, 2016).

Figure 7

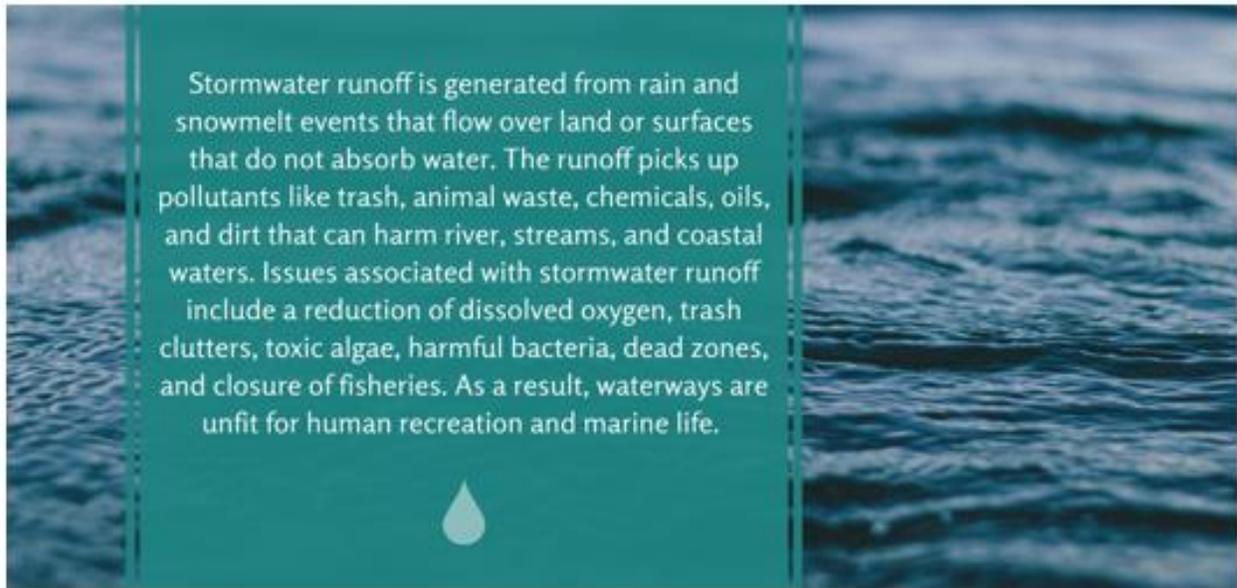


Source: NCDENR

This phenomenon increases runoff volume, which in turn, generates greater pollutant loads.

There are a number of waterborne diseases that increase in both volume and density with the

Figure 8



Source: United States Environmental Protection Agency

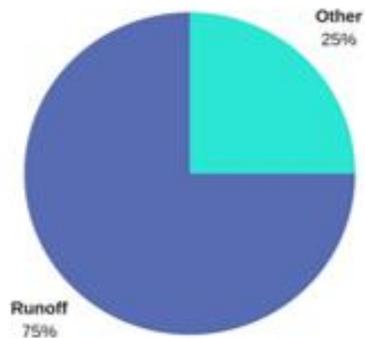
development of impervious surfaces in urban areas. Illnesses from consuming contaminated water may be due to protozoan oocysts, viruses, and bacteria (Ashbolt, 2015). Pathogens currently impair 5,529 US water bodies, and are the second leading cause of impairment, following sediment (Gaffield et al., 2003). Children, the elderly, and pregnant women are at the greatest risk for serious illness and mortality from waterborne pathogens (WHO, 2007).

Commonly, especially in rural zones, nutrient pollution due to fertilizers poses a great risk to the environment. Nutrient pollution fosters the growth of algal blooms which destroy aquatic ecosystems (USEPA, 2017). Algal blooms alone create toxins that kill fish and other animals (USEPA, 2017). After being consumed by small fish and shellfish these toxins move up the food chain and harm larger animals as the concentration of toxins increase (USEPA, 2017). Even if algal blooms are not toxic, they block sunlight from reaching low level grasses and by clogging fish gills (USEPA, 2017).

WATER QUALITY AND RUNOFF POLLUTION IN PRINCE GEORGE'S COUNTY:

Figure 9

Between 75-90% of the Anacostia River's pollution is caused by stormwater runoff



Source: Natural Resources Defense Council

Polluted runoff poses a great risk for the health of both communities and waterways in Prince George's County. Polluted runoff has the potential to threaten the safety of drinking water. Furthermore, polluted runoff is the largest source of water pollution in a number of the County's rivers, including the Anacostia, the Patuxent, and the Potomac (Chesapeake Bay Foundation, 2014).

In 2010, the federal government required states to meet new standards set under the Clean Water Act to address stormwater runoff pollution. In Prince George's County, urban runoff contributes 29% of the total nitrogen in Prince George's County, and 81% of nitrogen pollution in the Anacostia River (Chesapeake Bay Foundation, 2014). Additionally, 82% of the

phosphorus pollution in the Anacostia River comes from polluted runoff (Chesapeake Bay Foundation, 2014). Five percent of wastewater treatment plants are not meeting EPA water quality standards. The Potomac River has an estimated nitrogen load of 50.6 million pounds per year (85% of the EPA 2025 goal) (USEPA, 2010). Furthermore, the Potomac River has an estimated sediment load of 2.650 billion pounds per year (78.3% of the 2025 goal) (USEPA, 2010). Overflows contribute 1.3 billion gallons of raw sewage and stormwater in the Anacostia River (USEPA, 2010). The Maryland Department of Environment (MDE) approved fourteen cleanup plans in Prince George's County as a result of impaired water quality. Each cleanup plan has a strong connection to polluted runoff as the source of impairment. Prince George's County is home to portions of the Potomac, Patuxent, and Anacostia watersheds. These rivers are a part of the EPA's largest regional cleanup plan, which targets the entire Chesapeake Bay. One of the biggest issues is the increased number of impervious surfaces in the watershed (USEPA, 2017). Most of the watershed in the County range from 19-37% impervious surfaces, the lack of absorption negatively impacts water quality (USEPA, 2017). The issue is exacerbated by the lack of green infrastructure in the County.

The Anacostia River has become a dumping ground for industrial and residential waste, turning it to one of the most polluted rivers in the country (Fragoso, 2016). Poor water quality is a problem for those who catch, consume, and share fish in the Anacostia River. The consumption of contaminated fish increases exposure to toxic chemicals, such as polychlorinated biphenyls (PCBs), chlordane, and polycyclic aromatic hydrocarbons (PAHs) (Saija et al., 2016). These

Subsistence Fishing and the Anacostia River

Subsistence Fishing refers to the act of fishing for consumption and survival, not sport. Subsistence farmers feed themselves and their loved ones. Subsistence farmers are often low-income and people of color. Research shows that the racial/ethnic makeup of subsistence fishers along the Anacostia River is 67% African Americans, 18% Hispanic, 8% Asian, and 6% White.

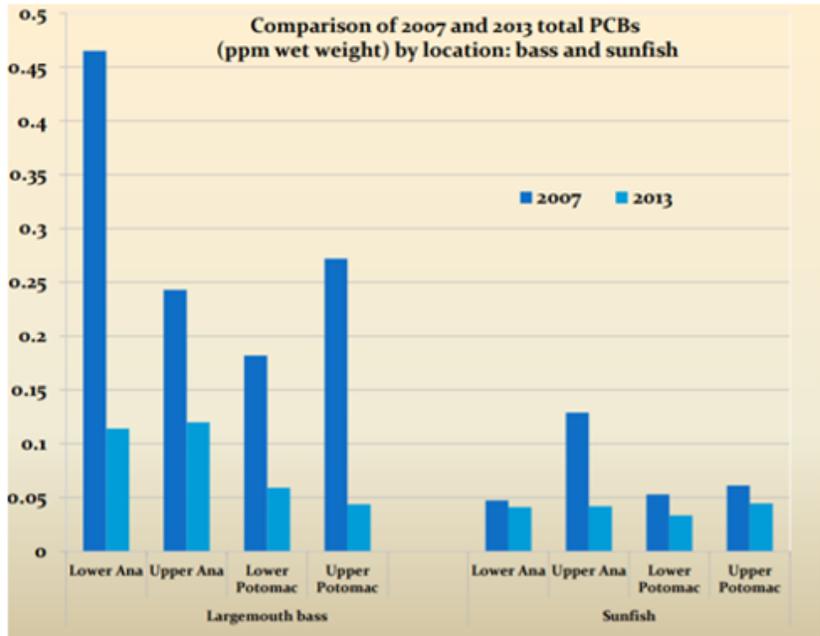
The Anacostia River is a highly polluted Chesapeake Bay tributary because it is used as an industrial waste dumping site. Sources of pollution in the Anacostia River include several facilities, such as the Washington Navy Yard, Poplar Point, Kenilworth Landfill, Washington Gas and Light, and PEPCO. Subsistence fishers that use the Anacostia River are catching, consuming, and sharing fish in a river that is heavily polluted and contaminated with numerous toxic chemicals. Fishers and their families are exposed to polychlorinated biphenyls (PCBs), dichlorodiphenyltrichloroethane (DDT), lead and mercury. Prolonged exposure to these chemicals result in a number of health problems, such as cancer, liver disease, developmental effects. Those most at risk include children, elderly people, and women of childbearing age.

toxicants can cause serious health problems such as cancer, liver disease, and developmental effects (Saija et al., 2016).

The state of the Upper Patuxent is impaired by fecal coliform bacteria and sediment. The damage to this river is strongly linked to the number of impervious surfaces in the watershed (USEPA, 2017). As for the Anacostia, between 75% and 90% of its pollution is caused by stormwater runoff, according to the Natural Resources Defense Council (Turrentine, 2016). Due to the level of contamination, the Anacostia Watershed Society gave the Anacostia River a score

of F (47%) (Anacostia Watershed Society, 2017). The watershed is contaminated with polychlorinated biphenyls (PCBs), trash, nutrients, sediments, and fecal coliforms (Haywood & Buchanan, 2007). The state of the Potomac River is improving in comparison to its counterparts. The Potomac is the only major Chesapeake Bay tributary to achieve short and long term nutrient reductions in its waters (Haywood & Buchanan, 2007). However, it is not in the clear just yet, again, polluted runoff from urban and suburban communities remains the largest barrier to a fully restored Potomac. Nitrogen and sediment loads have improved in the Potomac, but they still do not meet the EPA’s 2025 goal. There are several entities working toward the same goal of improving the water quality of the river. Dependable funding is critical for the County to improve the condition of the watersheds. In response to the Clean Water Act, former Governor Martin O’Malley signed into law House Bill 987: The *Watershed Protection and Restoration Program*. The program collects a fee (Clean Water Act Fee) from property owners to implement a program to address stormwater runoff. It is not clear how well this program is working with areas with a high percentage of impervious surfaces, poor stormwater management infrastructure, and low-income populations.

Figure 10



Source: Chesapeake Bay Program

RUNOFF POLLUTION GOALS:

- Protect, restore, and enhance habitat in the Chesapeake Bay watershed and subwatersheds in Prince George County including the Anacostia watershed
- Restore watershed functions, including hydrology, water quality, and habitat, using a balanced approach that minimizes negative impacts
- Support compliance with regional, state, and federal regulatory requirements
- Increase awareness and stewardship within the watershed, including encouraging policymakers to develop policies that support a healthy watershed
- Protect human health, safety, and property in the Chesapeake Bay watersheds and subwatersheds in Prince George's County including the Anacostia watershed
- Improve quality of life and recreational opportunities including swimming and fishing

STRATEGIES:

- Expand efforts with Pennsylvania, West Virginia, Virginia, and Maryland to address pollution in the Potomac
- Increase the amount of green infrastructure in the County
- Expand efforts with Washington, DC to address pollution in the Anacostia River
- Use funds from the Clean Water Act Fee to fund infrastructure that captures stormwater
- Use funds from the Clean Water Act Fee to fund improvements for aging sanitary sewer systems
- Encourage leaders from entities working on water quality in the County to form a committee and work together to reach water quality goals
- Improve Prince George's County stormwater redevelopment standard, which is stated in Prince George's County Code, Section 32-175(c)
- Provide funding for innovative public-private partnerships to work on clean water efforts
- Provide funding for restoration of impervious surfaces in underserved areas
- Form collaboration with Parks and Planning to make permit system for impervious surfaces stricter
- Identify innovative avenues to secure sustainable funding to protect the County's water system from pollutants particularly in areas that are pollution hot spots
- Develop culturally appropriate fish advisories for subsistence fishers and cultural fishers

METRICS:

1. Reduce the number of wastewater treatment plants that are not meeting the EPA water quality standards from 5% to 0% by 2025
2. Reach the EPA pollution reduction goal for nitrogen loads in the Potomac of 43.2 million pounds per year by 2025
3. Reach the EPA pollution reduction goal for sediment loads in the Potomac of 2.075 billion pounds per year by 2025
4. Increase stormwater retention/treatment from 0.5 in. to a 1in. that will protect water quality and address the severe erosion by 2025
5. Build/Repair Infrastructure that captures stormwater by 2025
6. Treat 8,000 acres of uncontrolled impervious surfaces by 2025
7. Implement Best Management Practices (BMPs) to reduce the number of impervious surfaces and increase absorption of stormwater through impervious surfaces particularly in flood prone neighborhoods

PRIORITY III: FOOD SECURITY

Food security has persistently been a problem for low-income populations and underserved communities of color due to the severe lack of supermarkets and grocery stores. Access to these healthy food outlets has been a long-term environmental justice issue in communities also overburdened by environmental hazards and noxious land uses. Studies examining the food environment have found that low-income neighborhoods, urban neighborhoods, and/or neighborhoods that are predominately African-American have less access to supermarkets than wealthier neighborhoods, neighborhoods that are suburban, or predominately white (Morland et al., 2002a,b; Morland et al., 2006; Zenk et al., 2005; Moore & Diez Roux, 2006; Morland & Filomena, 2007).

In many segregated and fragmented urban areas, the lack of access to health-promoting food resources creates a “food desert” or “food swamp” which is exacerbated by limited transportation opportunities for these populations (Walker et al., 2010). The term “food desert” was originally coined in the early 1990s and has since been adopted and defined differently by numerous scientists and scholars. However, most definitions touch on the notion that poor, urban residents are unable to access healthy and affordable food options (Walker et al., 2010; Cummins and

Macintyre, 2002). Food deserts can be defined as a low income area where urban residents live over a mile away from supermarkets or grocery stores that provide high quality and nutritious food options. For rural residents, the cutoff is over 10 miles for rural residents from such supermarkets (Prince George's County Health Needs Assessment, 2016). Likewise, food swamps denote areas where there is an overabundance of high energy low nutrient foods (i.e., fast food restaurants and convenience stores), compared to healthy food options.

Many poor segregated populations living in food deserts do not have access to personal vehicles or reliable public transit, which limits access to supermarkets which are predominantly outside of their residential area (Smoyer-Tomic et al., 2008; Powell et al., 2007; Morland et al., 2002), through more recent studies suggest that these communities may shop outside of their neighborhood at low cost grocery chains (LeDoux & Vojnovic, 2013). Instead of grocery stores, these environmental justice communities have an overabundance of non-supermarket outlets such as convenience stores and fast food outlets which can negatively impact diet, lifestyle, obesity risk, cardiovascular disease, and diabetes in these populations (Larson et al., 2007; Liese et al., 2007).

On the topic of food swamps, a number of studies have examined the racial/ethnic disparities in fast-food exposure in some of America's largest cities. Fast food restaurants tend to be more heavily promoted in African-American communities (Hilmers et al., 2012). Low-income and overburdened neighborhoods with larger racially/ethnically diverse populations are more likely to have higher densities of fast food restaurants with little access to healthy food options (Hilmers et al., 2012). For instance, Latino communities in New York have a high number of fast-food chains than non-Latino communities (Powell et al., 2007; Kwate et al., 2009; Galvez et al., 2013). Fast food is often high in fat and calories and lacks recommended nutrients (FDA, 2017). Excessive exposure to unhealthy food may increase one's risk of having a poor diet, being overweight, obesity, and cardiometabolic illnesses (Steyn & Damasceno, 2006).

This deficiency has prevented residents from making healthy and nutritious food choices for themselves and their families. Communities with limited food resources are prone to chronic diseases including diabetes, heart disease, and obesity. Studies have also shown that the presence of supermarkets in or near communities is associated with better diets (Morland et al., 2002a,b; Moore et al., 2008); and a lower prevalence of overweight, obesity, and hypertension (Morland et al., 2006). One study found that children's BMIs are higher in areas with greater distance from grocery stores (Scott et al., 2013). Studies have found that food access differs by store type with supermarkets having greater and cheaper selections of fresh food (Morland and Filomena, 2007; Block & Kouba, 2006). Smaller grocery stores carry limited qualities of healthier, leaner, high fiber options (Kersten 2009; Jetter & Cassidy, 2006). In addition, research has shown that convenience stores provide a limited choice of fresh, yet expensive produce (Hilmers et al., 2012).

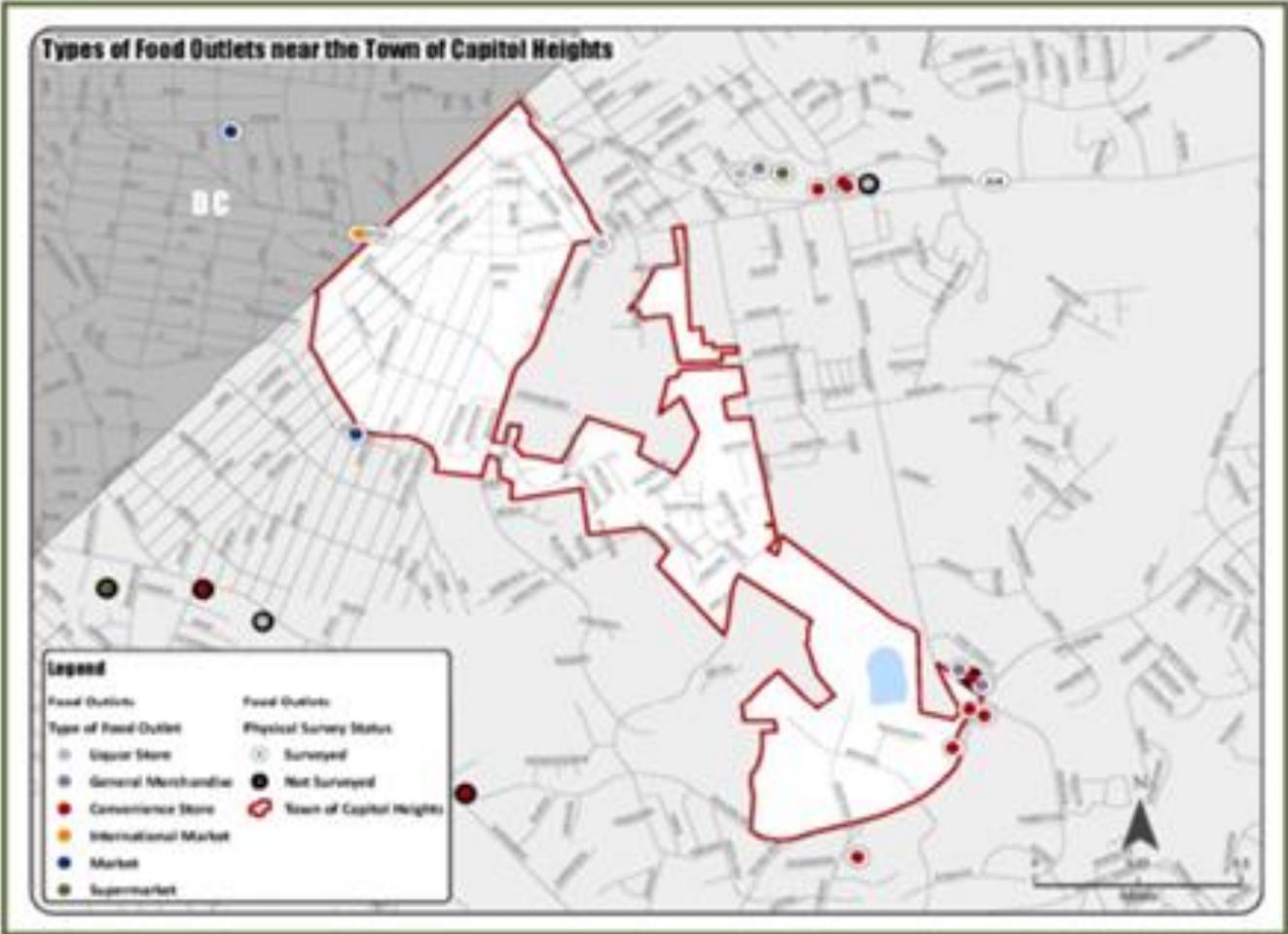
Low-income communities reflect higher prevalence of chronic diseases, in part, due to limited access of healthy foods (Powell et al., 2007; Hendrickson & Eikenberry, 2006) even with access to foods in these communities the quality of the foods may be of inferior quality, very expensive or be highly processed foods (Morland & Filomena, 2007; Hendrickson & Eikenberry, 2006). Studies have shown that residents with limited economic resources will select an energy-dense diet with added sugars and fats in an attempt to save money (Drewnowski & Darmon, 2005). Meanwhile, the prices for healthier food options such as lean meats, fresh fruits, and vegetables from supermarkets remains much higher and less convenient to them. Given the number of low-income individuals in Prince George's County and the high prevalence of food deserts and food swamps, residents are faced with similar challenges. It is also important to note that the portion sizes at fast food and carry out restaurants have grown significantly over the past 30 years, and these larger portions sizes combined with caloric intake leads to weight gain and obesity (Drewnowski & Darmon, 2005).

Food insecurity in Prince George's County is not solely a form of environmental justice, but a form of environmental racism.

This research reveals why food injustice can drive health inequities observed in low-income communities, communities of color, and rural communities in places such as Prince George’s County.

FOOD SECURITY IN PRINCE GEORGE’S COUNTY

Figure 11



In 2010, 100,000 County residents lived in food deserts (Prince George’s County Food Systems Profile, 2014). Ten percent of the County’s census tracts (73% of these tracts are located in the

Capital Beltway) can be found in food deserts (Prince George's County Food Systems Profile, 2014). This percentage increases to 18% when we expand the food desert measure to include vehicle availability, a primary indicator of access to supermarkets and grocery stores in areas with limited transit service (i.e., bus and train) (Prince George's Comprehensive Plan 2035).

A large number of the County's food deserts are located in the Developed Tier, which is an 86 square-mile area that borders Washington, DC and extends to the Capital Beltway (Cohen et al., 2010). The Developed Tier communities include Suitland, Bladensburg, and Capital Heights, College Park, and Brandywine (Cohen et al., 2010). Additionally, there has been an increase in fast food outlets in Prince George's County. Food insecurity has been especially prevalent in Seat Pleasant, Capitol Heights, Oxon Hill, and District Heights. As of 2014, 34.2% of adults were obese in Prince George's County, while 13.6% of the County's census tracts experience food insecurity- which is more than the state and national averages of 5.8% and 10% (Prince George's County Health Department, 2016). Over two-thirds of County residents are either overweight or obese, attributed to the overabundance of these fast food restaurants and carry out stores that serve food with high in fat, salt, and sugar content (Prince George's County Health Department, 2016). Unfortunately, 71% of all restaurants in Prince George's County are fast food restaurants, 11 points higher than in the whole state of Maryland (Prince George's Comprehensive Plan 2035).

Lack of quality food, variety of food choices, and public transportation are major challenges in accessing healthy food. There are a total of 82 supermarkets in Prince George's County, which is approximately 1 supermarket per 1000 residents (Prince George's County Food Systems Profile, 2014). Additionally, there are 286 total fast food restaurants in the County (nearly 4 times more fast food restaurants than supermarkets) (Prince George's County Food Systems Profile, 2014) Several Prince George's County grocery stores are at risk for closure, leaving residents with fewer options to access food. For example, the recent closure of a Safeway grocery store in Seat Pleasant/Capitol Heights may increase food insecurity in this community. The few grocery stores within the County do not carry quality food items or the items shoppers want, causing a significant number of residents to shop outside their neighborhood. Residents who are faced with fewer transportation options, such as public transit, may see this as an additional barrier in accessing healthy food in the County.

The state of food insecurity in Prince George's County warrants urgent attention as illustrated by the following statistics:

- 43.59% of residents live in a USDA designated food desert (Prince George's County Food Systems Profile, 2014)
- 15.6% of residents are food insecure (Prince George's County Food Systems Profile, 2014)
- 43% of Prince George's County population live more than 0.5 miles from a supermarket or large grocery store if in an urban area and live 10 miles from a supermarket or large grocery store if in a rural area (Institute for Public Health Innovation, 2014)
- 28.5% of Seat Pleasant/Capitol Heights residents are food insecure (Blackner, 2016)
- 30.7% of Oxon Hill residents are food insecure (Blackner, 2016)
- 31.8% of District Heights residents are food insecure (Blackner, 2016)
- 40% of residents shop for food outside of their neighborhood (Prince George's County Food System Study, 2017)
- 16% of residents report grocery stores being too far as a food access challenge (Prince George's County Food System Study, 2017)

FOOD SECURITY GOALS:

1. Promote health and reduce chronic disease risk through the consumption of healthful diets and achievement and maintenance of healthy body weights
2. Provide access to healthy, high quality, and affordable food sources for all Prince George's County residents
3. Provide transportation assistance to Prince George's County residents or food providers to promote the exchange of goods and services between consumers and suppliers

FOOD SECURITY STRATEGIES:

1. Provide subsidies to Prince George's County residents for the purchase of healthy food
2. Issue County regulations for quality food in all grocery stores
3. Provide funding for mobile markets that supply healthy food options

4. Implement farmers market and local food promotion programs in low-income/low-food access areas
5. Collaborate with faith-based organizations to plan and Implement nutrition programs
6. Partner with Prince George's County Economic Development Corporation, Planning and Zoning Departments to strategize more efficient and accessible grocery store locations
7. Offer incentives to small independent stores for offering fresh produce
8. Develop a grocery store closure relief fund program
9. Expand urban farming to increase access to fresh fruits and vegetables
10. Work with Department of Transportation to increase public transportation in areas where transportation is a barrier to food access
11. Arrange for shuttles to take senior citizens and handicapped residents to local supermarkets
12. Support urban aquaculture and develop a fish exchange program with WIC for subsistence fisherfolk in the County
13. Partner with the Office of Sustainability in Baltimore City to replicate their food security activities in Prince George's County
14. Use Maryland EJSCREEN tool to map food stores, food deserts, and food swamps to highlight communities that need new food infrastructure including grocery stores, farmer's markets, urban agriculture, mobile food markets, and other food infrastructure

FOOD SECURITY METRICS

1. Reduce the number of residents living in a food desert from 43.6% to 25% by 2025
2. Reduce the number of food insecure individuals from 15.6% to 10% by 2025
3. Increase the number of full service supermarkets from 82 to 125 by 2025

PRIORITY IV: CUMULATIVE IMPACTS OF ENVIRONMENTAL HAZARDS

The EPA defines 'hazardous waste' as the by-products of industrial production which present harmful health and environmental problems (USEPA, 2015). Hazardous waste is generated from industrial manufacturing a range of sources and is distributed in mostly gaseous and liquid forms. Other examples of hazardous wastes include used oil, Polychlorinated Biphenyls (PCBs), and pharmaceuticals (USEPA, 2015). Contaminated waste sites and industrial facilities- such as landfills, chemical plants, refineries, incinerators- can emit toxic chemicals such as lead, dioxin,

PCBs, and arsenic. Cumulative exposure to these toxicants can lead to deleterious health effects such as reproductive and developmental problems, damage to the liver and nervous system, and cancer (USEPA, 2015).

Furthermore, the 2007 Toxic Wastes and Race at Twenty report examined environmental racism across the United States. One key finding revealed racial disparities in the distribution of hazardous waste. It was estimated that nine million people live in within 3 kilometers (1.8 miles) of a commercial hazardous waste facility, and more than half of that population (5.1 million) are people of color (56%) (Bullard et al., 2007). Additionally, the poverty rates in the host neighborhoods are 1.5 times greater at 18%, than non-host areas at 12% (Bullard et al., 2007). Racial disparities in the distribution of hazardous waste exists in all 10 of the U.S. EPA regions; 4 out of 5 hazardous waste facilities are in metropolitan areas, where there are higher percentages of people of color in host areas versus non-host areas. A 2005 study used toxic chemical air release reports to help calculate the health risks posed by industrial air pollution in the state of Maryland (Apelberg et al., 2005). Researchers concluded that African-Americans were 79% more likely to live in neighborhoods and cities with industrial pollution (Apelberg et al., 2005; Wilson et al., 2013). The same studies also found strong associations between class, race, and health risks from air toxics. Cancer risk from exposure to air toxics is disproportionately high for African-American and socioeconomically disadvantaged communities (Apelberg et al., 2005). Similarly, non-white and low SES groups have been found to live in closer proximity to leaking underground storage tanks, which often release cancer-causing chemicals (Wilson et al., 2013). The cumulative impacts of these exposures present a major threat to public and environmental health, and underserved and overburdened communities are the most vulnerable.

Historically, the government has been slow to respond to these environmental justice issues, especially in overburdened communities. As a result, grassroots organizations have emerged in opposition to this unjust treatment and disproportionate exposures. Nevertheless, all communities deserve to be protected from pollution and environmental degradation- no community should be a **sacrifice zone**.

AIR QUALITY ISSUES IN PRINCE GEORGE'S COUNTY

The Air Quality Index (AQI) gauges the daily air quality and focuses on health effects of breathing polluted air. AQI encompasses five major air pollutants regulated by the Clean Air Act: ground-level ozone (O₃), particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide (USEPA, 2016). "Good" AQI is 0 to 50, or when air quality is considered satisfactory, and air pollution poses little or no risk. In 2015, only 52.3% of days fell within this "good" range in the County (USEPA, 2016).

In 2015, Prince George's County was one of the most polluted counties in Maryland.

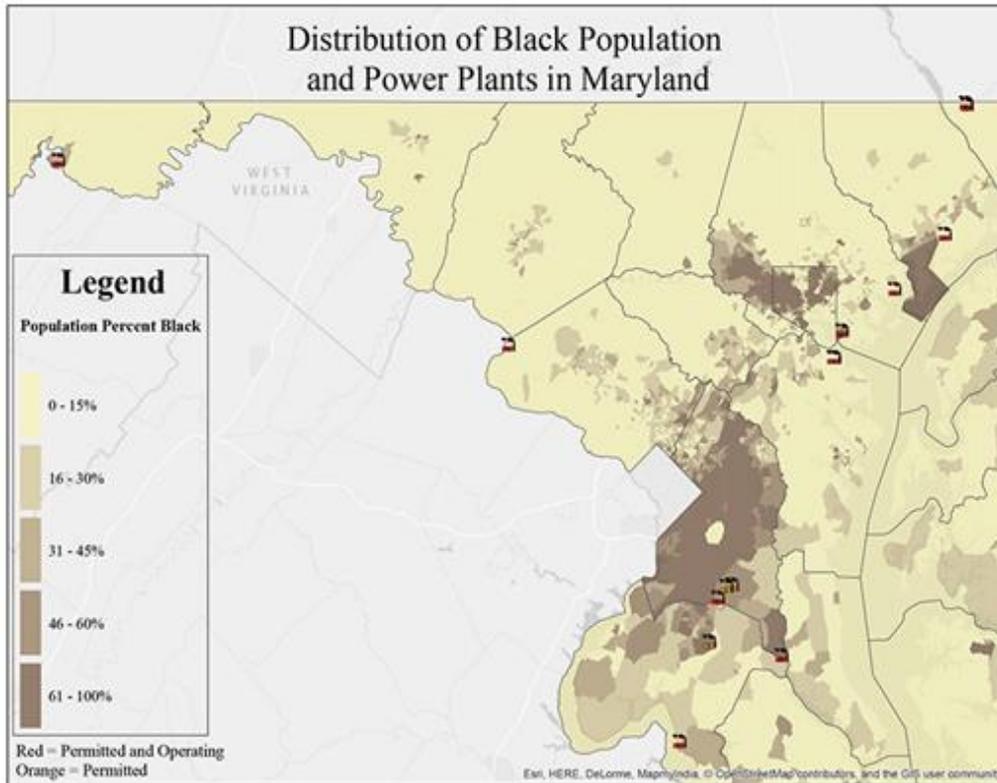
Figure 12



Source: Sierra Club

The most harmful air pollutants in Prince George's County and the Washington D.C. Metropolitan Area are ground-level ozone and airborne particles (Prince George's County, n.d.) due to stationary pollution sources, industrial traffic, and commuter traffic. Exposure to these pollutants may reduce lung function by 20% and can be extremely harmful to people, animals, and crops (USEPA, 2016). Exposure to traffic-related air pollution including particulate matter smaller than 2.5 micrometers in diameter (e.g., PM_{2.5}), nitrogen oxides (NO_x), volatile organic compounds (VOCs), black carbon, and diesel emissions can

Figure 13



Source: Center for Health, Environment, & Justice

cause acute effects including coughing, wheezing, fatigue, headaches, chest pains, shortness of breath, eye and throat irritation, increased blood pressure, and asthma attacks and other effects including stroke, heart disease, emergency room visits, cancer, hospitalizations, birth defects, and premature mortality (Burnett et al., 2014; Kim et al., 2015; Shah et al., 2013;

McCreanor et al., 2007; Medina-Ramon et al., 2008; Hoek et al., 2013; Anderson et al., 2012; Pope et al., 2004; Wang et al., 2014; Dvonch et al., 2009; Wilker et al., 2015; Sapkota et al., 2012; Wu et al., 2012; Mortimer et al., 2002; Rowangould, 2013; Meng et al., 2008).

Prince George's County has a total of **four Superfund sites**: 1) the Brandywine Defense Reutilization and Marketing Office (DRMO) Brandywine, Maryland; 2) the Beltsville Agricultural Research Center (BARC); 3) Andrews Air Force Base (AAFB); and 4) Naval Air Test Center. Some common contaminants range from acetone, trichloroethylene, barium, copper, cyanide compounds, lead, and mercury. The Resource Conservation Recovery Act (RCRA) ensures the management of hazardous and non-hazardous waste. Additionally, the Human Exposure Under Control (HEUC) assessments detect exposure to environmental toxicants from hazardous waste

sites. Low-income communities of color are more likely to be host to hazardous waste facilities and locally unwanted land uses (LULUs), a situation known as “disparate siting” which is the root of environmental racism (Mohai & Saha, 2015a,b).

In the report, **Fumes Across the Fenceline**, authors write that the location and impact of the oil and gas industry is an environmental justice issue (NAACP, 2017). Over 1 million, or 2% of African-Americans, live in areas with cancer risks above the USEPA’s level of concern due to air toxics from natural gas (Fleischman, 2016). Additionally, over 1 million African-Americans live within a half mile of an oil and gas facility and those in close proximity (less than .5 miles) have potential human health impacts due to toxicants released from oil and gas facilities (i.e., coal-fired power plants (<http://oilandgasthreatmap.com>) (NAACP, 2017). This occurs because of disparate siting due to the racial/ethnic makeup of host communities and the ability of companies to influence local governments which is particularly important for communities with limited political power or poor political representation (Horowitz & Benander, 2017). In the state of Maryland, we observe that overall that this spatial trend holds true. Figure 13 illustrates a disparity in the distribution of fossil fuel plants based on race in the state of Maryland. Most of the power plants in the state of Maryland (either in operation or permitted) are located in or in close proximity to communities where the Black population is greater than 31% of the overall population. Figure 13 shows a high concentration of power plants in Southwestern Maryland with very high numbers of Black residents. The differential burden of power plants on Black residents is a major issue for Brandywine, MD, a community that hosts multiple power plants in the Southwestern portion of the state. This high concentration of power plants in Brandywine is not only an example of environmental injustice but also environmental racism, environmental classism, and environmental slavery.

Brandywine, MD is an unincorporated community in Southern Prince George’s County. Being unincorporated means it does not have a mayor, town council, or representative government. This lack of political representation has led to Brandywine being exploited by County leadership and state officials to act as a **dumping ground** for industrial hazards and locally unwanted land uses (LULUs) and a **sacrifice zone** for the rest of Prince George’s County, the state of Maryland, and the Washington, DC region. This community hosts a number of industrial hazards including surface mining operations, a Superfund site, sludge lagoon, concrete batching facility, a fly ash

landfill, 3500 diesel truck trips/day, and contaminated soil from site of the new DC United Soccer Stadium in the Buzzard Point area of Washington, DC.

Air Pollution Case Study: Brandywine

Brandywine is an unincorporated town of fewer than 7,000 people located population of approximately 72% African Americans, all of institutionalized burden of excessive pollutants. The 21-square mile town will have five gas-fired power plants in the future. Chalk Point Generating Station, St. Charles Energy Center, North Keys Energy Center, Panda Power Plant, and the Mattawoman Natural Gas Plant. This fossil fuel power plant capacity is more than the capacity of 99.9% of the country, according to the Energy Justice Network.

Because of these industrial facilities, many community members are susceptible to health risks related to air pollution. Specifically, Brandywine residents are exposed to high levels of nitrogen dioxide, ozone, and particulate matter. Combined, these pollutants can cause illnesses such as heart disease, asthma, strokes, emphysema, bronchitis, and chronic obstructive pulmonary disease (USEPA, 2017). These health issues are prevalent throughout Brandywine. According to Prince George's County 2016 Community Health Assessment, respiratory symptoms are the leading cause of emergency room visits in the County. Clearly, poor air quality poses a major threat to the health of Brandywine residents.

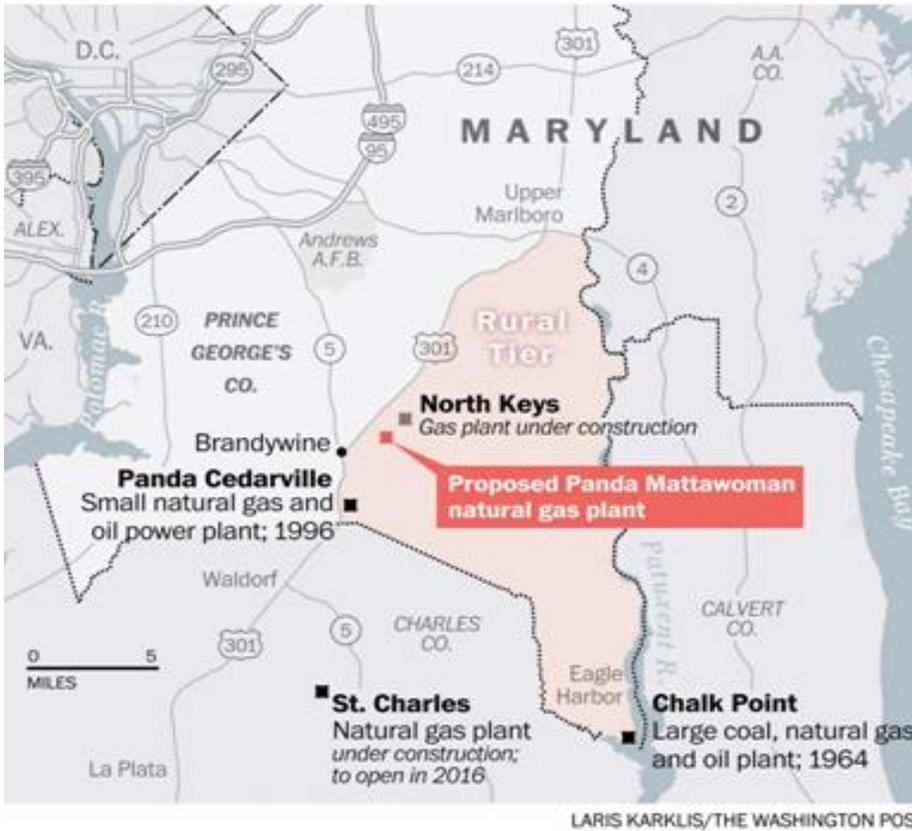
The situation in Brandywine is an example of environmental injustice and environmental racism for the following reasons:

- There is a differential burden of LULUs and industrial hazards in Brandywine compared to the rest of the County
- There is a higher prevalence of fossil fuel plants in Brandywine compared to the rest of the County and the State of Maryland
- There is differential siting of LULUs and industrial hazards in a community with no political representation (i.e., not incorporated)

- There is a higher prevalence of LULUs and industrial hazards in an unincorporated community compared to incorporated communities in the rest of the County
- There is a higher differential burden of LULUs and industrial hazards based on geography (i.e., Brandywine, a rural area, has more facilities compared to more urbanized parts of the County)
- African-Americans in Brandywine host more LULUs and industrial hazards particularly power plants than African-Americans in other parts of the County
- Brandywine is 72% Black which is higher than the average for the rest of Prince George's County, the state of Maryland, and the United States
- The cumulative/aggregate impacts of industrial hazards and LULUs in Brandywine compared to the rest of the County makes this an environmental justice issue
- The disparate impacts of the cumulative industrial hazards and LULUs is a violation of Title VI of the Civil Rights Act
- The disparate siting process of power plants in the Brandywine community is a violation of Title VI of the Civil Rights Act
- The fact that state agencies including the Maryland Department of the Environment and the Public Service Commission have not adopted guidelines to ensure that they are in compliance with Title VI is an example of discriminatory practices and disparate impacts
- The fact that agencies in Prince George's County do not have guidelines to ensure that they are in compliance with Title VI is an example of discriminatory practices and disparate impacts
- If any federal funds have been used to help build infrastructure including road access, improving roads, or sewer and water infrastructure for industrial hazards and LULUs including fossil fuel plants, fly ash landfill, or surface mining operations, this is a violation of President Clinton's Executive Order on Environmental Justice, Title VI of the Civil Rights Act, and is an example of environmental injustice
- If any environmental laws particularly the Clean Air Act, Emergency Planning Community to Know Act (EPCRA), Clean Water Act, and CERCLA have been differentially applied or enforced in Brandywine compared to other parts of the County or the state of Maryland that may have more economic and political resources than this is an example of environmental injustice and possibly environmental racism

- If any public health statutes or zoning regulations have been differentially applied, differentially enforced, or the abuse of these statutes or zoning regulations leads to disparate impacts and discrimination, then that is an example of environmental injustice
- The differential exposure of Brandywine to toxicants emitted to the air, water, and soil from local industrial hazards and LULUs compared to other parts of the County with fewer industrial hazards and LULUs is an environmental justice issue
- If decision-making about the siting, permitting, or re-permitting of industrial hazards and LULUs such as fossil fuel plants, fly ash landfills, concrete plants, and other facilities is

Figure 14



Source: The Washington Post

not informed by data, evidence, expert panels, or studies performed by County agencies or contracted organizations particularly on health impacts, health disparities, or risks for vulnerable populations in host communities then this is a dereliction of duty, violation of Title VI, and an example of environmental injustice.

For example, in May 2016, the Brandywine TB Coalition and Patuxent Riverkeeper filed a formal complaint with the Department of Transportation and the US EPA's Office of Civil Rights (Blackner, 2016).

The parties requested an investigation of the power plant development located within the community, citing violations of Title VI of the Civil Rights Act and other environmental health regulations. The chief complaint is centered around issues of environmental racism caused by the adverse effects of ozone precursor emissions, fine particulate matter emissions, noise and traffic congestion, and disproportionate economic burden (EarthJustice, 2016). Specifically, the complaint was filed in response to the construction of the Panda Mattawoman power plant within the Brandywine community. With the addition of this power plant, there will be a total of five large fossil fuel-fired power plants within a 13-mile radius of Brandywine.

The complaint requests that state agencies such as the Public Service Commission (PSC) and the Maryland Department of Environment (MDE) be brought into compliance by requiring them to withdraw issuance of the Certificate of Public Convenience and Necessity (CPCN) and withhold issuance of a new CPCN unless and until they perform the following: 1) conduct a full and fair analysis of disparate impacts from the proposed facility; 2) conduct a full and fair consideration of alternatives that would avoid such disparate impacts; and 3) require that any decision to issue a new or revised CPCN is conditioned on Mattawoman taking steps to ameliorate the negative impacts of the Mattawoman project upon Brandywine's African-American community. The complaint also suggests that the permitting agencies must revise their policies, rules,

Figure 15 Chalk Point Power Plant near Brandywine



Source: Bay Journal

regulations and procedures in regards to EJ concerns, and adopt environmental justice as an explicit consideration and goal in all decisions related to fossil fuel-fired power generation. Improving air quality in Prince George’s County, will improve the health of the County’s overburdened low-populations and communities of color.

The situation in Brandywine, MD, reveals that Prince George’s County has a problem within its agencies and County Council on understanding what environmental justice is particularly as it

Figure 16



Photo Credit: University of Maryland, College Park’s MIEH730 Spring 2017 Class

relates to health impacts and the rule of law. This is exemplified by recent hearings of the Zoning Examiner and the County Council about a special exception permit for a fly ash landfill located

adjacent to Brandywine’s only community park where children play soccer and baseball with potential exposure to fugitive dust emissions from the facility. Fugitive dust emissions that may include particulate matter, ultrafine particles, metals including lead, arsenic, mercury, polycyclic aromatic hydrocarbons (PAHs), silica dust, and radioactive particles. Exposure to these toxicants can lead to a number of health issues including decreased lung function, asthma, neurodevelopmental effects, neurocognitive effects, and cancer. Recently, a public official stated that Prince George’s County cannot have environmental justice issues since the County is primarily Black and the political representatives are primarily Black. This statement can be interpreted as since the leadership is Black, their actions in regards to non-compliance with, differential application of, or differential enforcement of zoning regulations, public health codes, environmental regulations, and civil rights statutes should be ignored or deemed permissible in the eyes of the law because the perpetrator is Black and the victims are Black. This basically means that if the leadership is Black, their decisions cannot be discriminatory. What is even more problematic with this supposition is ignoring the fact that the original special exception for the fly ash landfill was provided to the facility at the time when the County was not majority Black with majority Black leadership. This type of supposition demonstrates the poor leadership exhibited by some public officials in the County when ensuring fair and equitable zoning, planning, and development practices for the benefit of all populations particularly vulnerable, underserved, overburdened, and health disparity populations.

GOALS TO ADDRESS CUMULATIVE HAZARDS AND AIR POLLUTION:

1. Attain a level of air quality in overburdened, low-income, and communities of color that is below the EPA fine particle pollution (PM) national ambient air quality standards (NAAQS)
2. Reduce exposure to problem areas such as brownfields and Superfund sites in overburdened communities
3. Develop cumulative impact monitoring plan for overburdened communities such as Brandywine, Bladensburg, and the Sheriff Road community
4. Implement real-time monitoring of “hot spots” near industrial hazards and mobile sources of pollution
5. Reduce air toxic emissions caused by mobile, and other major sources of air pollution to reduce health effects among County residents

6. Reduce the number of power plants and facilities that have a negative environmental impact on the community of Brandywine and the health of its residents
7. Reduce and bring pollutant levels under USEPA standards
8. Moratorium on all facility related permitted at the state level (MDE, PSC, Agriculture, Transportation) and county level (Environment, Parks and Planning) until agencies have guidelines on how they will comply with Title VI of the Civil Rights Act

AIR QUALITY STRATEGIES:

1. Attain a PM_{2.5} annual mean of 10.0 µg/m³ over three years, specifically in areas that host facilities that release air toxics
2. Work with the USEPA to ensure that non-attainment areas meet PM_{2.5} NAAQS by 2020
This can be accomplished by monitoring all low-income and overburdened communities by measuring concentrations of PM_{2.5}, and creating effective strategies designed to reduce particle pollution when PM_{2.5} levels are too high
3. Use PM_{2.5} non-attainment State Implementation Plan (SIP) to develop county-wide non-attainment goals
4. Require fence-line monitoring and community-based monitoring in neighborhoods in close proximity to the power plants (i.e., Mattawoman Energy, Chalk Point Generating Station, Keys Energy Center) to assess human exposure to air toxics on a continuous basis
5. Implement Superfund cleanup program, which includes remedial investigation and site redevelopment to eliminate further exposure
 - a. Adopt USEPA's Superfund cleanup plan and use the National Priorities Listing to identify appropriate remedial actions
6. Provide natural and cultivated green spaces that mitigate air pollution
7. Use Geographic Information Systems (GIS) visualization tools such as the USEPA's EJSCREEN and Maryland EJSCREEN to identify environmental justice areas with high concentrations of racial and socioeconomic disparities, and high concentrations of LULUs and environmental pollution
 - a. Collaborate with the Maryland Environmental Public Health Tracking Program to establish and maintain a robust environmental justice data system for the County

- b. For areas with a high EJ score, these areas should be deemed not suitable for new LULUs and environmental health hazards such as major sources of pollution (gas-fired power plants, incinerators, landfills) and minor sources of pollution (concrete making facilities, metal recyclers, autobody shops)
8. Issue prevention of significant deterioration (PSD) permits in overburdened communities
9. Request that all major sources as defined by the Clean Air Act use zero emission technology
10. Monitor Brandywine court injunction and complaint, and take timely action to address any recommendations or implement corrective measures
11. Collaborate with research institutions to assess the health of residents in Brandywine
12. Secure funding to conduct environmental justice research in Brandywine and other underserved communities
13. Use cumulative impact assessment to monitor and control environmental contamination, and evaluate mitigation options

AIR QUALITY METRICS:

1. 100% attainment level of all cities in the county to meet National Ambient Air Quality Standards by 2025
2. By 2025, increase % of days with Air Quality Index in "Good" Range by 25%
3. By 2020, resolve issues in the Brandywine court injunction and complaint against power plant facilities development and expansion in violation of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d

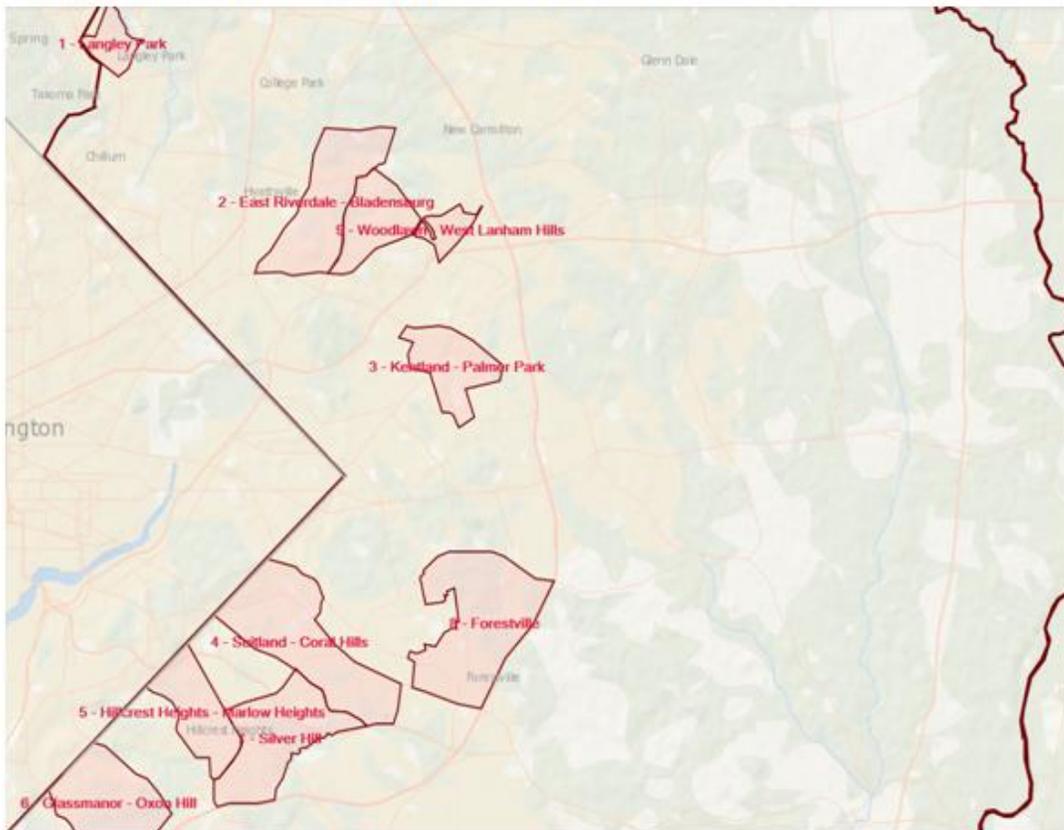
PRIORITY V: EQUITABLE DEVELOPMENT, ZONING AND PLANNING

Equitable development is an approach to creating vibrant, healthy, sustainable, and just communities. Opportunities for equitable development include creating affordable housing and economic opportunities, reducing environmental risk, building healthy neighborhoods. Historically, low-income, overburdened, and tribal communities have been disproportionately burdened by environmental hazards and are more likely to live in areas with increased exposure and health risks.

EQUITABLE DEVELOPMENT, ZONING AND PLANNING IN PRINCE GEORGE’S COUNTY

The Transforming Neighborhoods Initiative (TNI) was launched to address social and health issues in overburdened and underserved communities in Prince George’s County. The TNI program was created to utilize a select list of community indicators to drive decision-making and allocate government resources and attention more efficiently (Prince George’s County, 2018). This proposal served as an opportunity to focus on uplifting neighborhoods in the county that face significant economic, health, public safety and educational issues (Bibb et al., 2016). The TNI program was introduced in Langley Park, East Riverdale, Bladensburg, Glassmanor, Oxon Hill, Kentland, Palmer Park, Suitland, Coral Hills, Hillcrest Heights, Marlow Heights, Woodlawn, Lanham, Forestville, and Silver Hill (Prince George’s County, 2018). These areas are mainly

Figure 17 Map of TNI Communities in Prince George's County



Source: Prince George’s County

Figure 18 Smart Growth Principles



Source: GSRI

composed of people of color, particularly Black and Hispanic populations (Prince George's County, 2018).

These communities share similar psychosocial stressors such as high crime rates, low average median income, and high rates of unemployment (Prince George's County, 2018).

However, the TNI failed to address environmental health issues in these underserved communities (Bibb et al., 2016). It has been suggested that the TNI siting criteria include elements of environmental, ecological, and population health to improve the standard of Environmental Benefits Districts (EBD) siting criteria (Bibb et al., 2016). In addition, although it is stated that the TNI program has been effective in galvanizing local residents to be more proactive in

their communities, it has not been successful in decreasing all psychosocial stressors. For example, the unemployment rate has increased from 12.1% in 2010, to 12.89% in 2016 (Prince George's County, 2018).

The number of litter complaints has increased from 1,839 in 2010, to 2,039 in 2016 (Prince George's County, 2018). However, there some notable improvements in the crime rates and annual income in this area. The number of reported crime incidents has decreased from 4,844 incidents in 2010, to 2,815 incidents in 2016 (Prince George's County, 2018). The average median income has increased minimally from \$55,985 in 2010, to \$56,978 in 2016 (Prince George's County, 2018).

The increase in suburban developments in Prince George's County has increased urban sprawl in recent years (Ewing et al., 2008; Frank et al., 2005; Frumkin, Frank, & Jackson, 2005; Largo-Wight, 2011; Sturm & Cohen, 2014). This sprawl has separated our neighborhoods from each other leading to racial/ethnic and economic segregation. In addition, this pattern of development has isolated some populations and limited access to public transportation, employment, shopping centers, and other services. This growth also means an increase in air pollution due to more vehicles on the Beltway and other roadways to accommodate residents with long commutes to work and less green space and tree canopy to mitigate air pollution particularly traffic-related air pollution. Furthermore, rural and agricultural communities are beginning to disappear and many new exurban and rural developments are emerging that are not walkable, and lack access to parks, green space, supermarkets, transit infrastructure, and other essential services.

ENVIRONMENTAL RACISM:

defined as, the *“racial discrimination in environmental policymaking and enforcement of regulations and laws, the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the presence of life threatening poisons and pollutants for communities of color, and the history of excluding people of color from leadership of the environmental movement,”* adds to the burden of cumulative impacts.

The County needs to integrate smart growth principles (Figure 18) into planning new residential developments. Smart growth includes ten principles that can be applied to develop healthier, greener, and more sustainable communities.

ENVIRONMENTAL CLASSISM:

defined as, the “process by which economically disadvantaged and undereducated populations are disparately burdened by environmental hazards, particularly locally unwanted land uses (LULUs).”

Smart growth alone may not be enough to make sure that all communities have access to salutogenic resources. EJ 2025 encourages Prince George’s County to integrate planning and zoning efforts to promote smart growth, equitable development, and environmental justice to create inclusive, resilient, economically sustainable, and healthy communities. Several plans, policies, programs, and activities that

are already taking place in the County can help to bolster equitable development and zoning that promotes public health:

Cumulative Impact Assessment: Cumulative impacts of environmental hazards and locally unwanted land uses (LULUs) are evident in Prince George’s County given the challenges residents encounter with food insecurity, lack of access to preventative services and primary care physicians, differential burden of environmental pollution, and institutionalized discrimination as it relates to zoning decisions.

Use of Existing Tools and Programs: There are many tools or resources that can be used such as EPA EJSCREEN, the state of Maryland EJSCREEN tool, Prince George’s County Health Enterprise Zone, and the Transforming Neighborhood Initiative (TNI) to help identify overburdened communities that need additional investments so these communities can become healthier and more sustainable.

Environmental Benefits Districts (EBDs) (Bibb et al., 2016): One promising approach that can help address environmental injustice and environmental health disparities in Prince George’s County is the implementation of Environmental Benefits Districts (EBDs). They were first introduced to the state of Maryland in 2004. EBDs can facilitate community control of land use, zoning and planning initiatives in their own backyard (Wilson, Hutson, & Mujahid, 2008). As zoning and planning initiatives have caused harm in the past to communities of color and low-

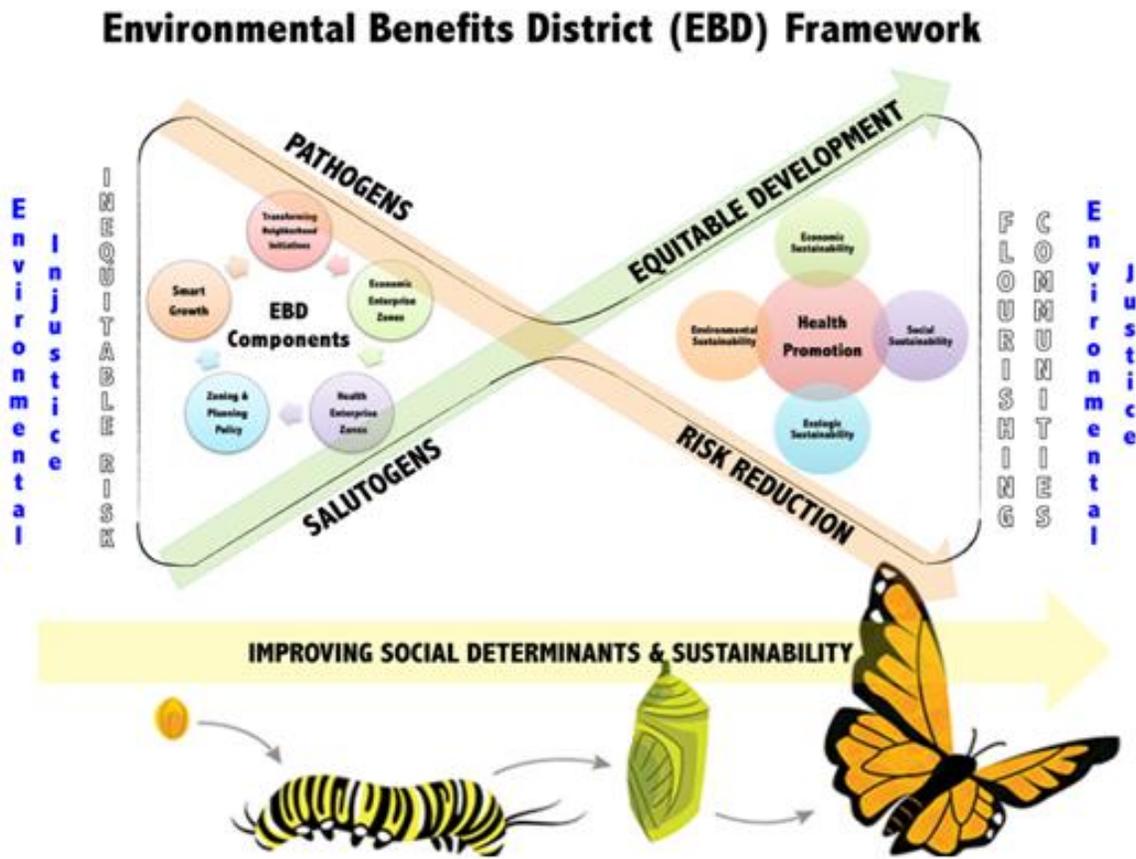
income populations, more socially just zoning and planning initiatives hold great power to encourage equitable development that encourages positive social, environmental, ecological, economic, and health in underserved and overburdened communities.

The implementation of the EBD framework will help reduce and/or eliminate ecologic pathogens and increase and/or improve ecologic salutogens in a specified area. These actions can advance environmental justice and health equity. By implementing the EBD framework, we can do the following:

- Increase neighborhood safety
- Increase access to safe & affordable housing
- Increase access to healthy food
- Increase educational success for students
- Design zoning & permitting conditions to reduce and/or remove environmental hazards and LULUs
- Increase meaningful built environment design that promotes clean air, psychosocial health, environmental health, social connectivity, walkability, active transport and active living, and sustainability

Prince George’s County Comprehensive Plan: Prince George’s County’s Plan 2035, is a comprehensive plan used to address long term growth and development. Plan 2035 establishes a framework for preserving natural and historic resources, cultivate sustainable growth, and build healthy and resilient neighborhoods through community engagement. Plan 2035 proposes strong economic and public investments in businesses and residences, ensuring safe, healthy, and environmentally sustainable communities. Prince George’s County Comprehensive Plan attempts to address community health as one of its eight elements. The plan presents the following goals to improve health: 1) Integrate community health into the master plan and

Figure 19



Source: Bibb et al.

development review processes; 2) Improve residents' access to fresh foods, in particular for households living in low-income areas with limited transportation options, and promote sources of fresh foods countywide; 3) Educate and build awareness of health and wellness initiatives that prevent and control chronic disease, and 4) Improve access to health services and programs.

The plan does an excellent job of discussing on-going efforts to address issue of food deserts and food swamps in the County including citing examples of innovative partnerships, Eco-City Farms, and the Food Equity Council. The plan also discusses doing more to address chronic diseases in the County through the Health Enterprise Zone (HEZ) programs. The plan also mentions but does not provide substantive details about the need for more collaborations between health agencies and other groups in Prince George's County. Throughout the plan, beyond the health section, there is discussion about expanding access to built environment resources including parks, walking trails, biking trails, and green space to improve opportunities for physical activity.

However, the plan does a poor job in outlining how it will actually integrate health completely into the master plan. There is no mention of addressing current health disparities in Prince George's County. There is no mention of addressing cumulative impacts of environmental hazards that drives exposure and health risks for many vulnerable populations and health disparity populations in the County. The plan briefly mentions indoor pollution issues including lead but falls woefully short in mentioning the role of housing stock in public health and a plan to address indoor built environments to improve public health. The plan does a poor job of recognizing the role of current inequities in planning, zoning, and development in driving environmental injustice, decreasing air quality, and the impact on health status including asthma prevalence, emergency room visits, and hospitalizations, other morbidity, and premature mortality. The lack of focus on social equity is an important issue. The plan discusses the need for greater access to parks, grocery stores, green space, and other built environment amenities but provides no detail on how it will make sure all populations including those with disparities in access now have equal access to these salutogenic resources. The 2035 plan provides no details on how it will integrate the equitable development framework into future efforts to make communities in Prince George's County healthier and more sustainable.

For example, The Coalition for Smart Growth is working with the Planning Board and County Council to address sprawl that undermines the revitalization of older communities. But, sprawl also can impact public health including reducing social capital, increasing mental health issues, less physical activity, and contributing to obesity and other negative health outcomes. The goal is to ask the County to invest state and county capital dollars for growth and development of communities near Prince George's County transit lines. Although Plan 2035 suggests that rezoning as a possibility, it does not change land use designations or zoning on individual properties.

Zoning and Health Issues: The Zoning Ordinance and Subdivision Regulations CB-41-2011 was passed in 2010, which states:

“for the purpose of requiring the Planning Board to refer Conceptual Site Plan, Detailed Site Plan, Comprehensive Design Plan, Specific Design Plan, and Master Plan proposals to the Prince George's County Health Department for a health impact assessment review....identifying the potential effects on the health of the population, and the distribution of those effects within the population, including recommendations for design components to increase positive health outcomes and minimize adverse health outcomes on the community....within 30 days”.

This zoning revision provided the County with a mandate to use the health impact assessment (HIA) framework to understand the negative impacts of new developments on public health and quality of life. Unfortunately, the Maryland-National Capital Park and Planning Commission has exempted some developments from this requirement. Additionally, the Health Department has done a poor job of performing legitimate HIAs to inform decision-making related to commercial development, industrial expansion, housing developments, and transportation projects. County agencies have continued to do an inadequate job in ensuring that the public's health is protected and improved in regards to development and zoning decisions.

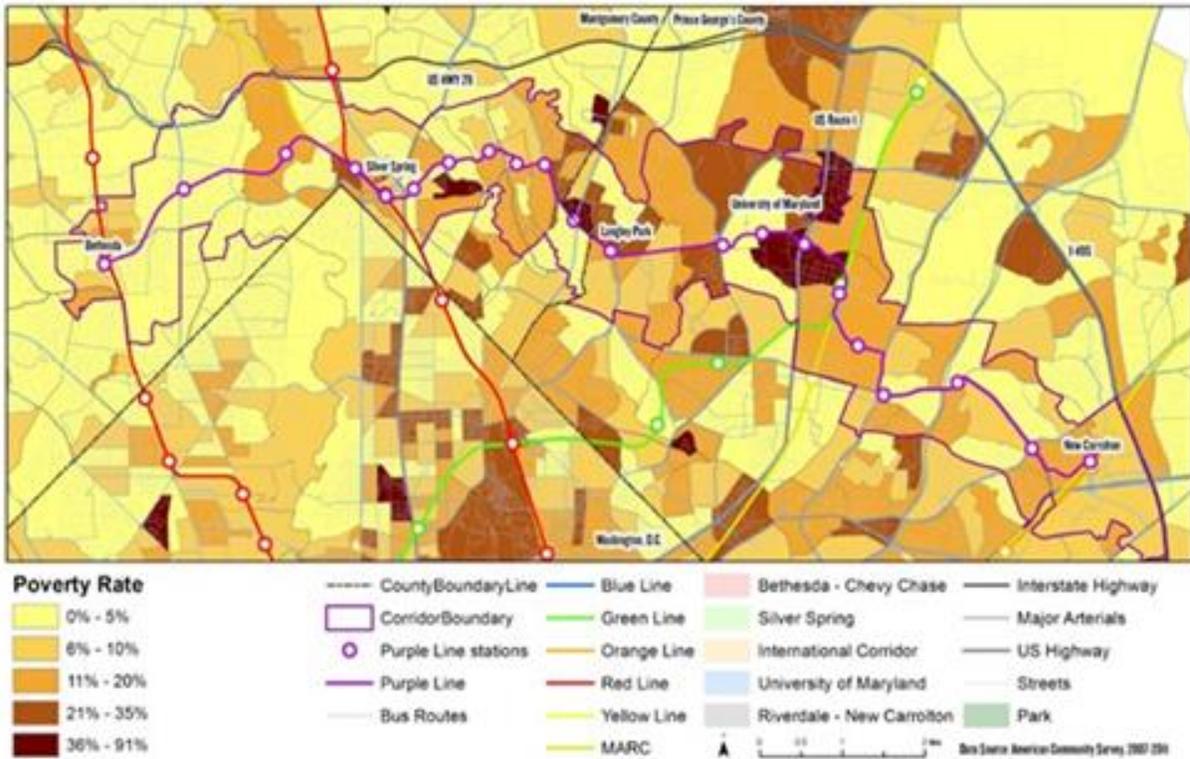
Currently, the Maryland-National Capital Park and Planning Commission is rewriting the Prince George's Zoning Ordinance and Subdivision Regulations. The plan is generated by a team of

planners, with some community input. As of February 2017, the zoning rewrite outlined a total of 15 proposed elements, including topics such as suitable green space, and improved cyclist and pedestrian infrastructure; however, there was no mention of revitalization, health, social or equitable development in underserved and overburdened communities in Prince George's County.

Transportation and Economic Development: New construction projects including the Purple Line and the Regional Medical Center may provide economic development for the County. However, there is growing concern if these transit-oriented developments will support healthy and fair economic development for residents in the County. Most of the job growth occurs in the western region of Fairfax, Montgomery, Arlington and Washington, DC, and household incomes are drastically different for populations closest to Prince George's County Metro stations. Consequently, Prince George's County residents with lower household incomes have some of the longest commutes in the region. There is a lack of economic development on the east side of the region. Langley Park, one of the communities that will be served by the Purple Line, is a multicultural community, comprised of over 80% Latinos with household incomes that are 83% lower than the rest of the County. Prince George's Planning Department is interested in economic competitiveness, incorporating mixed-use, walkable communities, and has projected 114,687 jobs by 2035. However, this plan focuses on growth in areas with the highest concentration of economic activity. As shown in Figure 20, the Purple Line extends through communities with poverty rates above 36%, revealing areas in need of economic opportunity, such as Langley Park which has a poverty rate of 21-35%. The new line may help transport economically underserved residents who live near projected transit line stops to jobs in other parts of the Washington, DC region.

We must recognize the impact of prior disinvestment and divestment in communities that will host the Purple Line and act as stops along the transit line. Instead of shuffling low-income residents to jobs in far off parts of the Washington, DC region; we should develop economic opportunity structures that can benefit low-income residents who live in areas along the Purple Line. The application of the equitable development framework in these neighborhoods can help ensure that any new developments including transit oriented development (TOD) benefit long-term residents and not lead to an uncontrolled rise in rental rates and property taxes that price out these residents and leads to or accelerates gentrification.

Figure 20 Poverty Rates Along Purple Line



Source: National Center for Smart Growth Research & Education

EQUITABLE DEVELOPMENT, ZONING AND PLANNING GOALS:

1. Establish a Commission on Environmental Justice and Equitable Development using the USEPA’s National Environmental Justice Advisory Council (NEJAC) as a model
2. Revise and update the Zoning Ordinance, Subdivision Ordinance, Plan 2035, and other County regulations to ensure they are consistent with and support the goals, vision, and policies of the Prince George’s County’s Health Improvement Plan (HIP)
3. Develop strategies to support mixed use, promoting transportation, while creating economic development in overburdened low-income communities and communities of color

4. All staff reports from the Planning Commission have to include actual data and research on the negative health impacts of planned developments. These reports must include baseline data for impacted communities and the agency must consult with experts in the field to include relevant health information.
5. Use EPA's Environmental Justice Collaborative Problem-Solving (CPS) Model to identify EJ issues, community vision and strategic goal setting, consensus building, and leverage resources
6. Employ the Health Impact Assessment (HIA) framework to evaluate the potential health effects of a development, project, policy, or any plan that impacts the built environment and use to promote health in all policies
 - a. All major and minor sources should be required to perform a Health Impact Assessment and cannot use special exception to avoid this process
7. Encourage community and stakeholder collaboration in planning and development decisions
8. Enforce Title VI of the Civil Rights Act of 1964, that states that no person on the ground of race, color, or nationality
9. Establish a moratorium on all special exceptions and other zoning decisions until there is a review of decisions to confirm compliance with Title VI of the Civil Rights Act
10. Establish a moratorium on all development decisions in the County related to housing, food, water, transportation, zoning, and permitting until all County agencies have compliance guidelines for Title VI of the Civil Rights Act and accountability measures

EQUITABLE DEVELOPMENT, ZONING, AND PLANNING STRATEGIES:

1. Incentivize job growth on the East side of the region to reduce traffic congestion and ensure economic opportunities in Langley Park
2. Implement Environmental Benefits Districts (EBDs) framework to reduce potential environmental concerns, clean and reuse brownfields and Superfund sites, and promote green building to reduce toxic contamination
3. Fully implement the Eco-District in the Port Towns area
4. Develop collaborative strategies with Prince George's County Board of Health, Prince George's Department of Environment, Prince George's Planning Department,

Department of Housing and Community Development, Public Works and Transportation, and Zoning Commission to reduce exposure to facilities with potential environmental hazards

5. Implement equitable transit-oriented development to lower housing and transportation costs, while working with community-based organizations to design more accessible, efficient, and safe transportation infrastructure
6. Update land use policies to include equitable development principles
7. Use tools such as housing trust funds, Low-Income Housing Tax Credits, and rehabilitation assistance to maintain access to opportunities and expand housing choices for low-income families
8. Prince George's County Zoning and Planning Board to clarify language regarding indicator requirements and regulations in regards to health impact assessments by 2018
9. Use Maryland EJSCREEN to target communities for vitalization or revitalization investments following the equitable development framework including community development block grants, HUD funding, TIF funding, HEZ funding, etc.

EQUITABLE DEVELOPMENT, ZONING, AND PLANNING METRICS:

1. Reduce the number of homes with moderate and severe physical problems by 10% each year starting in 2019
2. By 2025, Prince George's County will have regulations that integrate the equitable development framework into policies related to land use and development
3. Expand Eco-Districts across the entire county beginning with the Eco-District in Bladensburg to at least 10 in 5 years

CONCLUSIONS:

Health disparities and environmental injustice are ever increasing in underserved communities in Prince George's County, thus shining a light on issues faced by marginalized racial/ethnic and socioeconomic groups including our growing Spanish-speaking immigrant community. Environmental challenges are becoming increasingly more complex, and the capacity to confront

these challenges will depend on a coordinated, long-term effort with partners and stakeholders that have a vested interest in supporting the residents of Prince George's County as a top priority. Too much emphasis has been given to unfettered industrial and real estate development with limited to no focus on pollution prevention policies, and enforcement of and compliance with zoning regulations. Permits are now seen as a business market of exchange, giving freedom to industries to not be held accountable for the risks that they pose to the environment, public health, and quality of life. Industrial activity and urban redevelopment are creating and exacerbating air pollution and water management issues, gentrification, and other social and environmental externalities in the County.

The Prince George's County Environmental Justice Plan 2025 provides a roadmap for government agencies, businesses, community members, and other stakeholders to move forward together in a vision of making the County healthier, greener, more equitable, and more sustainable. It provides a framework for meaningful involvement of community leadership and residents in addressing challenges related to industrial hazards and exposures. The plan calls for greater, intentional attention placed in high priority areas where the greatest disparity can be identified. Thus, a more strategic focus can be placed in the investment of resources to combat inequitable development, environmental health issues, and relevant health disparities. Health disparities inflict a significant level of illness, disability, and death on the nation. In addition to excess disease and death, health disparities also impose a significant economic burden on society. In 2009, it was estimated that health disparities cost the U.S. economy over \$1.24 trillion over a four-year period, increasing healthcare spending by \$61 billion, and reduced labor market productivity by \$11 billion. Success is dependent upon equitable solutions for all stakeholders in the County particularly the most vulnerable, the most underserved, and the most overburdened.

The Prince George's County Environmental Justice 2025 Plan is the result of a collaborative effort of Dr. Sacoby Wilson, Director, Community Engagement, Environmental Justice, and Health (CEEJH) and public health students at the University of Maryland-College Park, supporting Prince George's County residents particularly vulnerable groups who seek to improvements in environmental quality, public health, and social and economic sustainability. It is imperative to utilize the state's public health research arm as a collaborative partner to monitor, explore, and help address environmental health challenges in collaboration with County agencies including the Health Department, Department of the Environment, and Parks and

Planning. To help move the Prince George's County Environmental Justice Plan forward, the team plans to release the Plan to the public and seek feedback. Additionally, the UMD team will host a forum with stakeholders from the County about the EJ Plan. One goal of this meeting is to begin the process of creating the Prince George's County EJ Workgroup that will help implement the Plan. Implementation of the EJ 2025 Plan will be monitored and updated as goals are achieved and new goals are developed.

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