

**Baltimore City  
Vehicle Availability  
and Travel Time to  
Work**

**Mean Travel Time to Work**

- 18 - 27 Minutes
- 28 - 32 Minutes
- 33 - 37 Minutes
- 38 - 45 Minutes

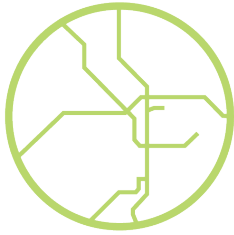
**No Vehicle Available**

- 0% - 13.2%
- 13.3% - 28.4%
- 28.5% - 45.5%
- 45.6% - 65.6%
- 65.7% - 100%

Data Sources:  
American Community Survey  
5-Year Estimates 2012-2016



Catherine E. Pugh  
Mayor



# Human-Made Systems

*Neighborhoods*

*Housing Affordability*

*Buildings*

*Transportation*

*Noise*



## human-made systems: *Neighborhoods*

Places where people have what they need within a 10-minute walk.

### THE BIG PICTURE

Great neighborhoods are the building blocks of great cities. And when housing is located close to businesses, friends, parks, schools, and shopping, then people are outdoors more often—and more connected to their neighbors. Neighborhoods are places where people come together to build relationships, and where a sense of identity and history is created. Great neighborhoods are places that people care about; they flow into and are connected to one another. Ultimately, a collection of places, physically connected, with committed and passionate residents, makes a vibrant city.

When planning what happens in neighborhoods, early and extensive resident input can align development strategies to better connect residents with economic, social, and educational opportunity. Neighborhood capacity to develop and foster a land-use vision varies widely and is inextricably linked to systemic racial and economic inequities. Resident input and collaboration is most meaningful and sustainable when communities have working understanding of how the land-use, zoning, and urban planning systems impact neighborhood quality of life.

### IN BALTIMORE

**Baltimore neighborhoods must be filled with amenities that residents need, desire, and can equitably access, and more neighborhoods must be affordable to more people.**

Baltimore's strength and promise lies in its people and its neighborhoods. Some of Baltimore's neighborhoods are thriving, while others are holding steady or experiencing high levels of distress and inequity. Once-thriving communities have declined, due to inequitable policies and practices over generations that are visible today in vacant homes, overburdened public schools, and vanishing business districts. Where you live should not determine how long you live. Rebuilding our neighborhoods, in partnership with our residents, is vital to rebuilding our economy, in addition to supporting the small local businesses that best serve their own communities. Even small investments can begin to change the look and feel of a neighborhood, and can go a long way in shifting the image of a place.<sup>1</sup>

Among the 1,200 survey responses given by Baltimore residents engaged in the creation of the Sustainability Plan, one of the things people appreciated most about their neighborhoods was living within walking distance of the places they want to go. This highly valued characteristic—easy access and proximity to goods and services—can be furthered through high-quality, mixed-use development; through mixed-income, racially integrated development; and through renovation, new construction, and infill development that consciously preserve affordable housing and diverse housing typologies.

**FAST FACT:**

**There are more than 270 neighborhoods in Baltimore — each with its own unique identity, traditions, and civic pride.**



## STRATEGIES & ACTION

### 1. Strengthen community capacity to address neighborhood obstacles and opportunities.

#### **Action 1:**

Continue the City's Neighborhood Planning Academy to equip residents with the tools to shape the future of their neighborhoods. Establish transparent communication, and continue to build trust between the City and residents, by sharing an understanding of local urban planning and design and community engagement processes; deepen outreach to areas of the city most impacted by distress, vacancy and elevated crime rates; use community-generated ideas to build additional capacity-building initiatives for residents.

#### **Action 2:**

Support residents in developing neighborhood plans, baselines, and/or maps that include key assets and issues, along with strategies to create or enhance community venues. Ensure targeted outreach to, engagement with, and collaboration with under-represented communities. Neighborhood plans can be used to raise awareness, lift community priorities, and raise funds.

#### **Action 3:**

Continue to increase resident-led and city-supported improvements with a focus in under-served neighborhoods; these include repairing more street lights, sidewalks, and roads; planting more trees; and increasing enforcement of speeding and other traffic violations.



### 2. Support programs and policies to increase investments in neighborhoods.

#### **Action 1**

Seek to increase the volume of investment in small businesses in neighborhoods to keep dollars in the community, and to provide needed resources and job opportunities for residents.

#### **Action 2:**

Annually evaluate city government capital funding through an equity lens.

#### **Action 3:**

Review historic preservation and other renovation tax credit programs and provide recommendations to make these programs more effective in incentivizing building rehabilitation and neighborhood revitalization. Support the tax credit study effort of the Commission for Historical and Architectural Preservation (CHAP).

#### **Action 4:**

Increase funding for affordable housing. Use the Affordable Housing Trust Fund, Neighborhood Impact Investment Fund grants and others to fill in gaps in distressed markets; increase high quality renovations, infill construction, mixed-use development, and affordable housing and services; couple these funds with supports to remove as many barriers as possible from the development process.

1. *Smart Growth America, Technical Assistance for Sustainable Communities, Technical Assistance Tool: Implementing Transit Oriented Development 101, Baltimore, MD. 2014*

**Action 5:**

Continue to provide operating support for capacity-building programs such as the city-funded Community Catalyst Grant to help community-based organizations involved in community development.

**Action 6:**

Improve the investment landscape in under-invested communities. Connect investors to communities to ensure investment is compatible with residents' vision. Encourage banks doing business in Baltimore to meet the investment needs of residents. Equip residents with information about local lending, investment and services, and support them in gaining an understanding how to advocate for change.

### 3. Encourage, support, and implement neighborhood improvements.

**Action 1:**

Require new developments to be accessible by all—meaning they include elements that support pedestrian activity, transit use, and public space.

**Action 2:**

Increase Code Enforcement to ensure that vacant buildings and blighted, occupied homes do not remain in neighborhoods for long periods.

**Action 3:**

Ensure commercial outlets, such as corner stores and bars, are not nuisances and are supported by the community.

**Action 4:**

Implement the Complete Streets ordinance, which prioritizes the safety of all people using the street over the speed of moving cars. Complete Streets often have slower speed limits, wide and maintained sidewalks and crosswalks, pedestrian-focused lighting, protected bike lanes, bus lanes and bus shelters, and beautification such as trees and plantings. Prioritize these in high-crash areas.

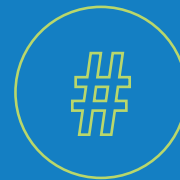
## how we'll measure success:



Number and distribution of housing renovation permits granted



Number of renovation tax credits issued



Number and distribution of neighborhood improvement grants applied for and received—including both individual neighborhoods and neighborhoods working together



Photo Credit: Strong City Baltimore



Photo Credit: Friends of Druid Hill Park



## human-made systems: **Housing Affordability**

Every resident has a safe, comfortable, and affordable place to live.



### THE BIG PICTURE

Housing is considered “affordable” when a household spends 30 percent or less of gross income on rent or mortgage and related expenses (such as utilities). Households which pay more than 30 percent and may have difficulty affording necessities such as food, clothing, transportation and medical care are considered by the U.S. Department of Housing and Urban Development to be “cost burdened.” Severely cost burdened households are those that spend more than 50 percent of income on housing.



### IN BALTIMORE

**We can increase affordable housing while creating economically diverse neighborhoods.**

In Baltimore, 54 percent of renters and 32 percent of homeowners are cost burdened. Since recognizing how this disproportionately affects low-income residents and people of color, Baltimore has a clear need to increase housing opportunities for low- and very low-income households. Many of the City’s low-income residents, Black, Spanish-speaking, and immigrant families have few housing choices and live in neighborhoods that are physically unsafe, environmentally hazardous, and psychologically debilitating. Housing affordability is vital to achieving equity, as it plays a major role in economic mobility and residential stability.



**Create senior housing in Northeast Baltimore... When I need senior housing, I will love ALL my friends and acquaintances in my neighborhood.**



- Senior and longtime Waltherson resident

The City is working with partners to implement data-driven, geographically focused initiatives that take a “whole-block approach” whenever possible, to address neighborhood disinvestment and improve housing conditions. Targeted code enforcement, weatherization, rehabilitation, demolition, and new construction are in the toolbox to prevent vacancies

**FAST FACT:**

**About 33% of Baltimore renters spend more than half their income on rent and utilities, a situation which contributes to trapping people in poverty.**

and to stabilize and rebuild neighborhoods. As renovation and new housing stock is built with a mix of new units, redevelopment efforts should strive to support existing residents and prevent housing displacement, which disproportionately impacts low-income residents. Taking steps to make it attractive for families of all races to remain safely and affordably in their homes is a priority, as is supporting older adults to “age in-place.”

Energy and water utility costs can compound the housing cost burden for low income households. Energy efficiency and water conservation efforts help residents reduce monthly bills, and can also have the effect of helping create local jobs and reduce pollution.



## STRATEGIES & ACTION

### 1. Increase housing affordability for both renters and homeowners and create opportunities for economic mobility.

#### **Action 1:**

Use City resources to leverage funds to preserve housing and create affordable housing. Support, encourage, and fund development of programs that preserve existing housing; encourage redevelopment of existing structures. Spur production of new, affordable units, including by supporting both non- and for-profit development entities such as the Baltimore City Affordable Housing Trust Fund. Seek increased Community Reinvestment Act commitments from financial institutions operating in the city.

#### **Action 2:**

Explore tools to ensure significant new development projects support existing residents and minimize resident displacement. The highest goal is for



Photo Credit: Episcopal Housing

developments to include units that are permanently affordable and available to residents with very low, low, and moderate incomes.

### 2. Expedite housing renovations, demolitions, and greening efforts to increase the number of thriving, safe, neighborhoods.

#### **Action 1:**

Continue to strategically demolish vacant structures, working closely with guidance from neighborhood residents directly impacted by vacant and nuisance properties and in consideration of future use of the site for redevelopment or maintained open space. Importantly, to every extent possible, deconstruct vacant structures.



**Action 2:**

Facilitate the transfer of vacant, abandoned properties to owners who have capacity to rehabilitate them. Increase City receivership, an innovative legal approach to reducing nuisance properties that are privately owned but neglected. Explore means to coordinate receivership with affordable housing developers, including community land trusts and other nonprofit models. Explore development of a “land bank,” which would bundle properties, particularly whole blighted blocks, for redevelopment.

### 3. Enable homeowners—especially older adults, people of color, and people with low-incomes—to maintain their homes.

**Action 1:**

Increase awareness of financial assistance and incentives to help low-income homeowners maintain their homes and keep them healthy through programs that support weatherization, rehabilitation, ADA-compliant updates and system upgrades; address health and safety issues; reduce energy and water utility costs; and offer discounts on property taxes. Increase awareness of the Homeowners Tax Credit for older adults. Increase promotion of tax credits and energy assistance to renters. Encourage households to take advantage of opportunities for solar tax credits and community solar to increase clean energy generation.

**Action 2:**

Increase financial resources (and increase awareness of them) to assist low-income and older adults with ADA-compliant updates for people of all ages and abilities.

**Action 3:**

Increase financial resources (and increase awareness of them) to assist low-income households to become homeowners or to keep their homes through financial and homeowner counseling, coaching, credit enhancement, and down payment and closing cost assistance, as well as estate planning.



Photo Credit: Empire Homes



Before and after photos of a use of historic property tax credits.

For more information: <https://chap.baltimorecity.gov/tax-credits>

### how we'll measure success:



Number of households receiving weatherization assistance and energy-reduction education and assistance through programs like the Baltimore Energy Challenge



Number of new and existing homeowners, by income level, who use City-supported homeowner programs



Number of city-supported affordable housing units (created or maintained) and number of units created with the Low Income Housing Tax Credits managed by the State of Maryland



Affordability of mortgages and rent in the city



## human-made systems: **Buildings**

**Baltimore becomes a national leader in energy- and water-efficient buildings that promote health and well-being.**



### THE BIG PICTURE

The average American spends 87 percent of their day indoors<sup>1</sup>. The buildings in which we live, work, go to school, and worship have a direct effect on our health, especially through factors like allergens, pests, excessive heat, poor air flow, and mold<sup>2</sup>. While efficient building designs promoting health may sometimes require additional upfront costs, they save money over the long-term. Improving the efficiency, comfort and indoor air quality of buildings are some of the least expensive, most abundant, and most underused ways to save money, reduce energy waste, and stimulate the clean energy economy by creating jobs. All of these can contribute to a more resilient economy.

<sup>1</sup> *The National Human Activity Pattern Survey (NHAPS): a resource for assessing exposure to environmental pollutants,* Neil E Klepeis, William C Nelson, Wayne R Ott, John P Robinson, Andy M Tsang, Paul Switzer, Joseph V Behar, Stephen C Hern, and William H Engelmann. *Journal of Exposure Analysis and Environmental Epidemiology* volume 11, pages 231–252 (2001)

<sup>2</sup> <https://www.un.org/sustainabledevelopment/> *The Next Nexus: Exemplary Programs That Save Energy and Improve Health*, March 2018, Ronald Denson, Jr. and Sara Hayes. Report H1802

“It is of utmost importance to me to have a **GREEN, healthy environment** to live in.”

- 20-year resident of Lauraville



### IN BALTIMORE

**Upgrading apartments, homes, and other buildings in Baltimore to improve air quality and energy and water efficiency will greatly improve quality of life.**

In Baltimore, buildings comprise the majority of energy use and generate 70 percent of the city's greenhouse gas emissions. Our aging building stock, combined with a high number of property owners who struggle to invest in properties while keeping rents affordable, threaten the availability of quality affordable housing, an issue which is clustered in communities of color and low-income neighborhoods.

City government uses a conservation-first approach, delivering income-eligible families energy efficiency and weatherization services combined with health improvements such as lead reduction, mold remediation, and integrated pest management. When grant funding is available, the City offers energy and health upgrades to small businesses and nonprofits who serve low-income residents. But more can be done. For example, housing policy is not currently maximized; codes, permits, and low-income housing tax credits can be restructured to help building owners and residents capture the return on investment required to improve the health of buildings, along with water and energy efficiency.

**FAST FACT:**

**In 2017, Baltimore was one of only 11 cities nationwide to receive a high score for “equity metrics” from the American Council for an Energy Efficient Economy, for reaching both low-income and multifamily customers with energy efficient programs.**



## STRATEGIES & ACTION

### 1. Advance building energy and water efficiency, as well as education and outreach, in all sectors—residential, commercial, municipal, and institutional—to reduce long-term costs and increase the health of occupants.

#### **Action 1:**

Expand outreach about energy and water rebates to residential, commercial, municipal, and industrial occupants and owners, including information about available incentives as well as behavioral change techniques.

#### **Action 2:**

Develop a financing toolkit to assist building owners to understand available energy and water efficiency financing options.

#### **Action 3:**

Promote Property Assessed Clean Energy (P.A.C.E.) financing to large-building owners to promote energy and water upgrades and renewable energy installations.

### 2. Increase energy and water efficiency retrofits in affordable and low-income housing markets to reduce greenhouse gas emissions, expand local sector jobs, and improve the long-term viability of affordable housing.

#### **Action 1:**

Expand outreach to private landlords of low-income and affordable housing units to familiarize them with the benefits of conducting energy and water

efficiency upgrades to reduce maintenance costs, and encourage landlords to lower tenants’ utility burden.

#### **Action 2:**

Develop programs to retrofit affordable housing units into energy- and water-efficient units. Emphasize conservation-first, high-performance, building-enclosure-focused strategies to improve the most durable and fundamental aspects of our built environment. Research wall systems used in affordable, high-performance housing, for both new and retrofit applications that meet these objectives.

#### **Action 3:**

Analyze long-term return on investment opportunities for deep energy and water retrofits in the low-income housing market; develop a financial decision tool to help affordable housing providers assess incremental costs, benefits, and greenhouse gas emission savings for implementing energy measures.

#### **Action 4:**

Increase workforce programs in energy efficiency, renewable energy and health upgrades, emphasizing local hiring. Promote apprenticeships for local workers.

### 3. Create policies to promote awareness and transparency of energy and water use and reduction.

#### **Action 1:**

Create residential disclosure for energy and water use at time of sale or lease agreement requiring owners to disclose energy and water consumption levels to potential renters or buyers using a displacement risk analysis. Take into account how market information, such as energy disclosure, can influence rents in a tight rental market.

**Action 2:**

Develop and pass benchmarking legislation to promote commercial, municipal, and institutional energy and water efficiency and renewable energy, and a disclosure ordinance for yearly energy and water use.

**Action 3:**

Evaluate existing utility and city-wide energy- and water-savers programs to further advance incentives and efficiency. Explore graduated pricing structures for energy and water resources depending on time of use, peak demands, and income level.

#### 4. Create and adopt programs and codes for promoting occupant health and comfort, as well as efficiency.

**Action 1:**

Review the City's existing green building code and amend to fully support occupant health and comfort in addition to water and energy efficiency.

**Action 2:**

Work with architects and designers to create systematic approaches to sustainable building designs that integrate and restore the natural environment; use concepts of buildings that are living, restorative and adaptive

**Action 3:**

Support the development of holistic, neighborhood-wide, deep energy retrofit projects that reduce energy and water use and improve comfort and economic resiliency. Emphasize the use of low toxicity and low-tech, high craftsmanship methods to build community knowledge base, yielding more local economic development.

**Action 4:**

Explore requiring development plans to include operational efficiency cost-benefit analyses and return on investment calculations for the whole project, including common spaces and residential aspects

**Action 5:**

Integrate energy- and water-savings strategies and promote gray-water harvesting and stormwater capture to serve efficiency and non-potable water needs. Storm-water reservoirs could be used to integrate site design features (irrigation of urban green infrastructure and agriculture) and serve as thermal mass for district heating and cooling.

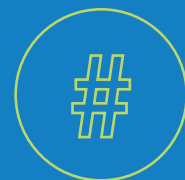
### how we'll measure success:



Total water and energy usage and costs by building sector



Number of participants in Property Assessed Clean Energy (P.A.C.E.) financing



Number and geographic distribution of certified green buildings



Photo Credit: Humanim



Photo Credit: Hord Coplan Macht, Green Roof in South Baltimore



## human-made systems: *Transportation*

An affordable, dynamic, reliable, and integrated transportation system serving all people.

### THE BIG PICTURE

Everyone needs safe, affordable, and reliable means to travel to work, school, shopping, appointments, or to visit friends. Depending on cars as the primary mode of transport can make travel easy, but it also creates congestion, noise, air pollution, crashes, environmentally detrimental impervious surfaces, and increased household expenses. Furthermore, transportation is a major source of greenhouse gases. A sustainable and equitable transportation system offers access to affordable, integrated, and safe options in transit, biking, and walking—and is less dependent on cars. Increased connectivity and access, particularly for those living in historically under-served areas, is necessary for improving social mobility, quality of life, and economic opportunities.

Car travel is not an option for everyone, including households without access to a car or ride-sharing technology, differently-abled people and older adults (who may also lack walking ability), and youth under legal driving age. Job markets (and employees) suffer when transportation is unreliable, and when commute times exceed 45 minutes. By ensuring that everyone has many dependable transit options, “economic and social mobility can increase for those without cars while helping to recruit and retain young talent.”<sup>1</sup> A great transit system unlocks the additional benefits of quieter streets, fewer vehicular injuries and fatalities, cleaner air, and more active lifestyles.

### IN BALTIMORE

**While components of a transportation system exist, not all are affordable, convenient, dependable, and integrated.**

Baltimore has public buses and trains, dockless electric scooters, a Bicycle Master Plan, car-sharing services, on-demand ride-sharing services, and manually hailed drivers commonly referred to as “hacks.” However, not all of these options are widely accessible or reliable. Our single occupancy vehicle-centric system is responsible for almost 30 percent of the greenhouse gases we release into the air. A shift away from this dependence toward reliable, accessible public transit, connected to the region, along with safer routes for pedestrians, and bicyclists can be enormously positive for Baltimore’s economic mobility, prosperity, and safety.

“*[Our neighborhood’s] major intersections prioritize vehicular throughput at the expense of pedestrian safety... Even with right-of-way, pedestrians often place themselves in harm’s way by simply crossing the street.*”

- Resident of Belvedere Square

1. Greater Washington Partnership Capital Region Blueprint for Regional Mobility, <http://www.greaterwashingtonpartnership.com/gwp/blueprint/index.html>

**FAST FACT:**

**About one-third of Baltimore households don't have access to a car.**



Photo Credit: Baltimore City Department of Transportation

Baltimore's history of segregated housing policy, redlining, and disinvestment in black neighborhoods offers a direct connection between public transit systems and equity. Thirty percent of Baltimore residents have no access to a vehicle, and that rate is concentrated in segregated areas. According to the Baltimore Neighborhood Indicators Alliance, "in every historically red-lined, majority African-American community in East and West Baltimore City, the number of households with no vehicle access is greater than 50 percent."<sup>2</sup> This means that many Black residents rely solely on the City's public transit—which is often unreliable—to get to places of employment, schools, and retail. Further, these residents disproportionately bear the negative impacts of driver-oriented streets, such as safety risks and air pollution; and for many

riders without alternative transit options, it is a struggle to remain punctual. Two-thirds of public transit riders in Baltimore face commute times that are 90 minutes or longer each way, which has a negative impact on people's economic futures, according to Clean Water Action: "Commuting time is one of the strongest factors in a person's chances of escaping poverty: the longer the commute, the harder it is to maintain a job, keep stable housing, and accumulate wealth."<sup>3</sup>



## STRATEGIES & ACTION

### 1. Prioritize local and regional transportation coordination and investments, ensuring equity.

#### Action 1:

Advance the Central Maryland Regional Transit Plan by working with regional partners including transit riders, city and state agencies, and nonprofits, elected officials, business leaders, and anchor institutions to consider alternative and creative models for systems.

#### Action 2:

Support a dedicated funding source<sup>4</sup> for public transportation and safety improvements in the region, including investing in alternative vehicles (such as autonomous vehicles for use as public transit) and investigate the use of vehicle-related revenue to promote pedestrian-first policies.

#### Action 3:

Increase equitable investment in road resurfacing, maintenance, and reporting, ensuring resources are distributed first to historically under-served neighborhoods.

2. According to the Baltimore Neighborhood Indicators Alliance data on vehicle access, there are 8 Baltimore City community statistical areas (CSAs) where greater than 50% of households do not have access to a vehicle. With the exception of Cherry Hill, an African-American community created post-World War II, these Baltimore CSAs correspond exactly to East and West Baltimore's historically red-lined communities as established in 1937 by the Home Owners Loan Corporation. The CSAs are as: Cherry Hill, Greenmount East, Madison/East End, Oldtown/Middle East, Poppleton/Terraces/Hollins Market, Sandtown Winchester/Harlem Park, Southwest Baltimore, and Upton/Druid Heights.

3. <https://www.cleanwateraction.org/2018/01/22/transportation-air-quality-baltimorelink-and-red-line>

4. A dedicated funding source, by law, is available for use only to support a specific purpose and cannot be diverted to other uses



**Action 4:**

Standardize ongoing coordination between city and state agencies and the public. Formulate and jointly publish goals and performance metrics in an accessible annual report.

## 2. Enact policies that promote city and regional priorities for pedestrians, transit, and alternative forms of transportation.

**Action 1:**

Implement Baltimore's Complete Streets ordinance that creates a process for evaluating how streets and corridors serve pedestrians, transit, bicycling, freight, and single-occupancy vehicles, and enhance the use of data to guide equitable mobility and infrastructure investments. Ensure early and extensive resident input, and ensure equity considerations are built into the Complete Streets hierarchy.

**Action 2:**

Create and implement a Pedestrian Master Plan that includes a sidewalk and a lighting inventory to identify areas of high density with poor connectivity and walkability, with the long-term goal of providing continuous and widened sidewalks, shorter crossings, improved streetscapes, and traffic calming.

**Action 3:**

Fully implement the Bicycle Master Plan to improve safety and accessibility for cyclists, ensuring equitable distribution of bike infrastructure.

**Action 4:**

Alter traffic signal timing citywide, shortening cycle lengths in order to lower traffic speeds



Baltimore Office of Sustainability mascot, Turtle.

and shorten wait-times for pedestrians and cyclists.

**Action 5:**

Seek opportunities to implement more pedestrian-only spaces, such as public plazas, to provide a safe haven for pedestrians while also creating places for people to gather and improve health and well-being; start with pop-up events.

## 3. Improve reliability, accessibility, safety, and efficiency of transit while reducing the environmental impacts of vehicles.

**Action 1:**

Develop and maintain transit hubs between public transit routes as well as connections to bike sharing, car sharing, electric vehicle chargers, and/or ride hailing near employment centers and in areas where car ownership is low. Improve pedestrian and bicycle connections between and to transit stops and hubs; maximize safety and include better lighting, signage for wayfinding, disaster protocol, solar power, and trees.

**Action 2:**

Create more efficient public transit options; reinstate the plan to implement Baltimore's east-west light rail corridor and expand and enforce dedicated bus lanes and other mechanisms giving buses priority in transit areas with high ridership and congestion; build a system that improves economic opportunity for everyone and provides the mobility that young workers depend upon.

**Action 3:**

Eliminate parking subsidies and mandates, and offer employee incentives to encourage commuting by modes other than single-occupancy vehicles.

**Action 4:**

Encourage green commutes to work and school by coordinating with on-demand ride hailing services to provide affordable connections to destinations beyond the range of the transit system.



Photo Credit: Baltimore City Department of Transportation

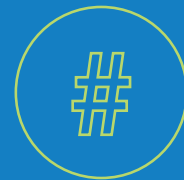
## how we'll measure success:



Walk-score by neighborhood



Number of bicyclists by location using annual counts



Number and distribution of mile of bike lanes, especially for neighborhoods with the lowest rates of car access



Percent of population that uses public transportation to get to work along with mode split and travel time to work



Transit on-time performance and number of riders using the bus system, for all corridors where dedicated lanes and priority bus travel have been implemented, data to include breakdown by neighborhood



## human-made systems: **Noise**

Quiet residential neighborhoods are good for everyone's health and comfort.



### THE BIG PICTURE

Noise is a form of pollution. And noise pollution is everywhere. Excessive noise is a cause of damage to human health and ecosystems, as well as a symptom of other harmful factors. For example, the noise from cars on the road may be associated with local air pollution. The largest sources of environmental noise are transportation and industrial activity—which are “produced by those with the most power,” even though noise complaint systems generally target those with the least power.<sup>1</sup>

Excessive noise is generally defined as noise higher than 70 decibels, which is the equivalent of standing 50 feet away from the edge of a highway. Continuous or repetitive noise (like a highway) can have a greater impact than loud but infrequent neighborhood noises (such as a barking dog). Noise can disturb sleep, cause hearing problems, increase stress, and lead to heart disease. Solutions to the problem must be systemic, requiring a large-scale, collective response across many different targets

“*I prefer areas with peace and quiet. There's no park. I'd like to have a place to go take a nice walk in every community.*”

- Young person in Homewood, connecting noise complaints with the need for green space



### IN BALTIMORE

**While some noise is inevitable in any city, investments in noise reduction will be highly valuable for residents.**

In Baltimore, two loud sounds pervade the city: police sirens (120 decibels) and low-flying police helicopters. In low-income communities, these sounds are almost constant.<sup>2</sup> The Baltimore City Health Code calls noise “a menace to the welfare and prosperity of the people.” The Health Department is in charge of enforcing the City's noise ordinance on amplified sound, which entitles everyone to noise levels that are not detrimental to life, health, or enjoyment of property. The Code sets noise limits in residential and commercial areas; it also includes time restrictions.

The Baltimore 311 system collects and tracks noise complaints. Complaints about non-amplified noise (such as people talking loudly) are handled by the Police Department, while common sources of noise (like cars or emergency sirens) are necessarily exempt from investigation. Complaint-based systems in government are found to be inherently inequitable because they require a level of comfort and trust with the complaint process.

It's clear that noise is an issue to address in Baltimore, as residents in our survey frequently raised “noise” as an issue—it

**FAST FACT:**

**In the Sustainability Survey of Baltimore residents, addressing noise was a significant priority among youth.**

was especially a concern for youth respondents. Excessive noise is also a crucial equity issue, as research has found a relationship between exposure to noise and race. One study found that noise pollution is about 4 decibels louder at night in neighborhoods with primarily black residents. Further, racially segregated cities have been shown to have unhealthier air, due in part to traffic (which also contributes to noise pollution).<sup>3</sup>



## STRATEGIES & ACTION

### 1. Meet the goals of Baltimore's noise ordinance by reducing overall noise levels.

#### Action 1:

Create new regulations to bring the noise ordinance in line with best practices. This process must be done with early and extensive input from the people impacted. Examples of best practices include working with industrial businesses to minimize noise and developing regulations for noise produced by generators or HVAC systems.

#### Action 2:

Strengthen enforcement of commercial and industrial noise standards.

### 2. Ensure all neighborhoods enjoy the benefits of quiet.

#### Action 1:

Engage a group (or groups) of residents representing city demographics to discuss noise and seek ways to address it.

#### Action 2:

Inventory noise pollution throughout the city, seeing how it varies from neighborhood to neighborhood, and target improvement efforts for greater equity.

#### Action 3:

Initiate outreach activities to increase community awareness of noise standards, impacts of noise, and ways to reduce noise. Focus these in neighborhoods with recurring noise issues and complaints.

#### Action 4:

Direct tree planting and other efforts to muffle noise in neighborhoods with less tree canopy and in communities which are at higher risk of adverse outcomes from noise pollution.

1. "City Noise Might Be Making You Sick," *The Atlantic*, Kate Wagner, February 20, 2018. <https://www.theatlantic.com/technology/archive/2018/02/city-noise-might-be-making-you-sick/553385/>
2. "City Noise Might Be Making You Sick," Wagner
3. "Noise Pollution Loudest in Black Neighborhoods, Segregated Cities." *Berkeley News*, Brett Israel, July 25, 2017. <http://news.berkeley.edu/2017/07/25/noise-pollution-loudest-in-black-neighborhoods-segregated-cities/>

## how we'll measure success:



Number and distribution of noise code violations and complaints (as a starting point with an understanding that it likely is not representative of the distribution of noise)



Number and distribution of noise-reducing projects