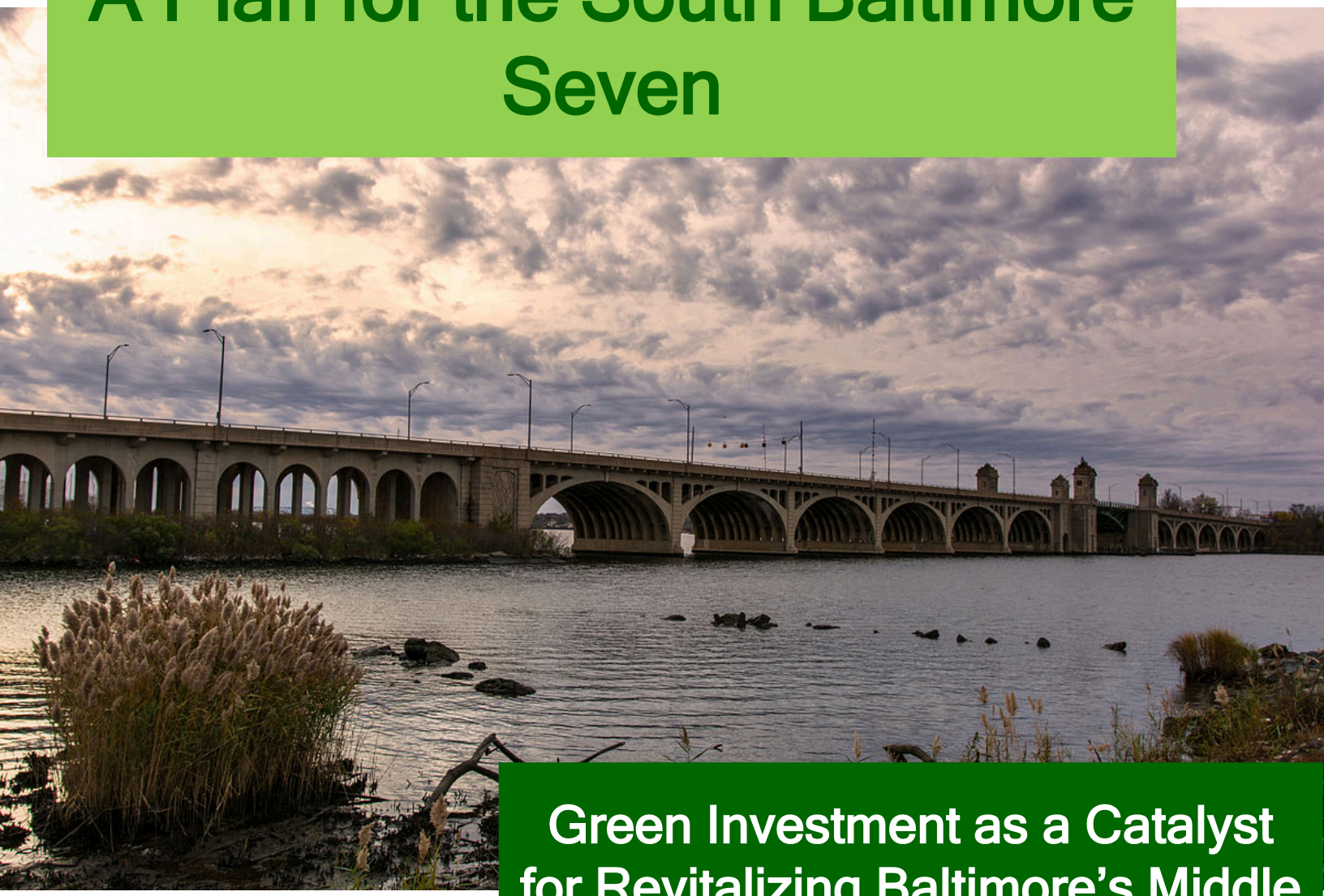
# Green Neighborhoods:
## A Plan for the South Baltimore Seven



## Green Investment as a Catalyst for Revitalizing Baltimore's Middle Branch Neighborhoods

2021

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SCHOOL OF ARCHITECTURE, PLANNING & PRESERVATION

# Green Neighborhoods: A Plan for the South Baltimore Seven

A plan prepared for the Baltimore City Department of Planning by students in the 2020 Summer Studio Capstone Course, a graduate course in the Urban Studies and Planning Program at the University of Maryland, College Park.

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**Student Authors:**
Daniella Acosta
Luke Benson
Maria Resendiz Lane
Shayne Piltz
Christopher Ramirez
Catherine Skeeter

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# Acknowledgements

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**Jennifer Cotting** – Director, Environmental Finance Center, University of Maryland, College Park

**Casey Dawkins, PhD** – Professor Urban Studies and Planning, University of Maryland, College Park

**Michael Dorsey** – Grow Home

**Jennifer Egan, PhD** – Program Manager, Environmental Finance Center, University of Maryland, College Park

**Michael Furbish** – President + Founder, Furbish

**Morgan Grove, PhD** - Scientist and Team Leader, US Forest Service Northern Research Station

**Oscar Harrell** – Enhanced Services Director, South Baltimore Gateway Partnership

**Sarah Hope** – Director of Revitalization Programs, Greater Baybrook Alliance

**Patrick Hughes** – Long Range Planner, Anne Arundel Long Range Planning Division

**Rodette Jones** – Community Engagement Coordinator, Greater Baybrook Alliance

**Michael Middleton** – Executive Director, Cherry Hill Development Corporation

**Steward Pickett, PhD** – Plant Ecologist, Cary Institute of Ecosystem Studies

**Josephine Selvakumar** - Western Sector Planner, Baltimore County Department of Planning

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# Executive Summary

The Middle Branch in Baltimore City will be undergoing major developments soon as outlined in the Middle Branch Waterfront Master Plan, to be completed in early 2022, highlighted by projects such as the Port Covington development. This Green Neighborhoods plan seeks to promote green investment as a method to revitalize the South Baltimore Seven (SB7) neighborhoods (see map pg. 2) in a sustainable way. There are several issues affecting the area that have hampered economic opportunity and development over the past few decades:

- **Lack of Physical Connections to the Waterfront:** While these neighborhoods are near the Middle Branch, there are physical barriers (undeveloped lots, roads, railways) blocking physical access to the waterfront for residents.
- **Digital Divide:** These neighborhoods lag behind the rest of the city in terms of households with high-speed internet connections. This limits access to educational and employment opportunities.
- **Low Employment/Slow Local Economy:** This part of Baltimore has relatively fewer businesses and fewer new businesses than most areas of the city. This demonstrates a lack of entrepreneurial opportunities in addition to fewer employment opportunities. Of the opportunities that do exists, they are largely low-skill/low-wage.
- **Poor Connectivity to surrounding areas:** The barriers that prevent access to the waterfront also limit access by SB7 residents to nearby economic opportunities in Baltimore City and Baltimore and Anne Arundel Counties.

These issues limit economic opportunity for residents and hamper the potential for growth without the intervention of outside capital, which can often lead to displacement. This plan seeks to prioritize equity, jumpstart local reinvestment, improve public health, and increase connectivity. We present a set of strategies that can improve the area and empower existing residents to exercise agency over the revitalization of their neighborhoods:

## Green Corridors Concept Plan

This plan outlines existing conditions, provides a Green Corridors Concept Plan, and lays out two categories of implementation strategies: Physical & Programmatic. This physical plan seeks to increase connectivity between neighborhoods through green networks and more gateways to waterfront amenities. This plan also contains suggested design interventions.

## Physical Strategies

- *Complete Green Streets* – Implement pedestrian-oriented design along with green infrastructure best practices to increase safety and improve the attractiveness of the area.
- *Green Alleys* – Improve alleyways to create a safer low-speed pathway for cyclists and pedestrians.
- *Better Bus Stops* – Safe and more accommodating bus stops using shelters and tactical pedestrianization design.

## Programmatic Strategies

- *Digital Community Hubs* – Retrofitted old school buses as Wi-Fi hotspots to provide high speed internet access for residents and increase access to other programming.
- *SB7 In-Demand* – Provide access to upskilling workforce development training related to IT and green economy jobs.
- *Green Community-Based Care* – Expand the number of urban farms and launch nutrition focused pilot programs.
- *Education Programming* – Engage local high school students through projects that allow them to integrate environmental science with the green infrastructure investments laid out in this plan.
- *Healthy Homes Weatherization Outreach Campaign* – Upgrade residential infrastructure to reduce energy and resource consumption and lower utility and home maintenance costs for low-income residents.
- *Investment without Displacement* – Proactively target vacant properties for acquisition by community land trust to maintain affordable housing when property values rise in the future.

The strategies and recommended methods of implementation laid out in this plan will allow for an inclusive, sustainable way to revitalize the area. This improves the sense of agency local groups and residents have over the process and ensures a more equitable implementation of the plan.

# Chapter One | Basis for the Plan

## Introduction

The vision articulated in the 2007 *Middle Branch Master Plan* recognized the unique opportunities present in Baltimore's "lesser-known harbor" and sought to elevate the Middle Branch as a green oasis whose benefits extended beyond the physical, aiming to anchor social and economic dimensions as a foundation to both preserve the existing community and provide for future generations [1]:

*"Redevelop and revitalize the Middle Branch estuary and waterfront as a mixed-use community through economic and community redevelopment, ecosystem restoration and protection, and recreation and education programs coordinated within a sustainable framework."*

As part of a summer studio course, a workgroup of Master of Community Planning graduate students from the University of Maryland at College Park (UMD-CP) Urban Studies and Planning Program (URSP) undertook the development of a plan for the South Baltimore Seven (SB7) neighborhoods. The project team was tasked with creating a plan complementary to Baltimore City's proposal for a waterfront master plan for the Middle Branch Patapsco River area.

This effort involved providing data analysis and research of the neighborhoods surrounding the Middle Branch and developing a strategy focused on green investments as a catalyst for potential neighborhood revitalization.

Figure 1-1 displays the plan's study area, the SB7 neighborhoods, including Port Covington, Westport, Mount Winans, Lakeland, Cherry Hill, Brooklyn, and Curtis Bay. These neighborhoods border both Baltimore County and Anne Arundel County to the south and east. The CSX and MARC Commuter Rail lines and Interstate 95 form the study area's northwest boundary. The Patapsco River separates Cherry Hill from Brooklyn and Curtis Bay. Port Covington lies east across the Middle Branch, south of Riverside and I-95. The SB7 area lies within three watersheds: Gwynns Falls, Patapsco River Lower North Branch, and Baltimore Harbor.

Figure 1-1 shows the study neighborhoods broken into sub-areas. These groupings were chosen for ease of data collection, as neighborhood-scale data is not always readily available. The sub-areas also follow natural breaks or borders. These neighborhoods include Westport, Mount Winans, Lakeland in blue, Cherry Hill in green, Brooklyn and Curtis Bay in orange, plus Port Covington to the east.

While the proposal initially began as a green infrastructure functional plan, the plan evolved to focus on broader green investments integrated with a community development plan. Green investments are capital intensive. They seek to preserve and restore the natural environment, improve climate change adaptation and mitigation, and harness the benefits of ecosystem services for the local community. Although green infrastructure and green stormwater best management practices (BMP) are part of these recommendations, the project team developed a definition of green investments that extends beyond the two. Green investments also include green transportation improvements and green hazard mitigation.

The objective of this plan is to ensure a thoughtful implementation of the social benefits of green neighborhoods. To this end, the plan aligns housing needs, workforce development, transportation policy, public health programming, and educational initiatives with green investment strategies. Furthermore, using a multi-faceted approach leverages the potential for connectivity to the waterfront by improving multi-modal transportation and pedestrian activity. Although green investments provide multiple benefits, there is also the possibility of creating what researchers call green displacement. New investment in a community can contribute to increased housing prices and the influx of wealthier and often white residents.

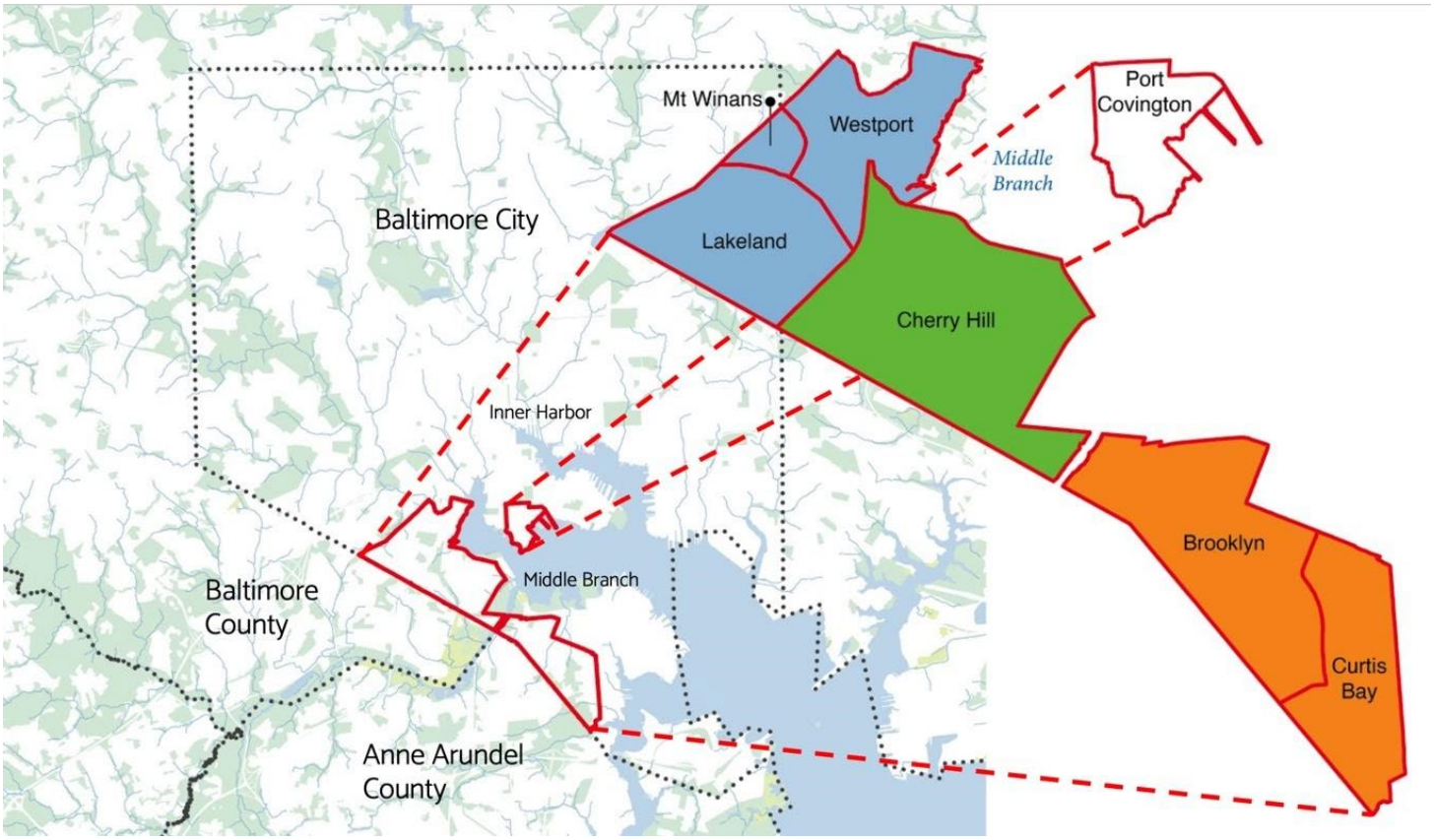



Figure 1-1. SB7 Study Area..

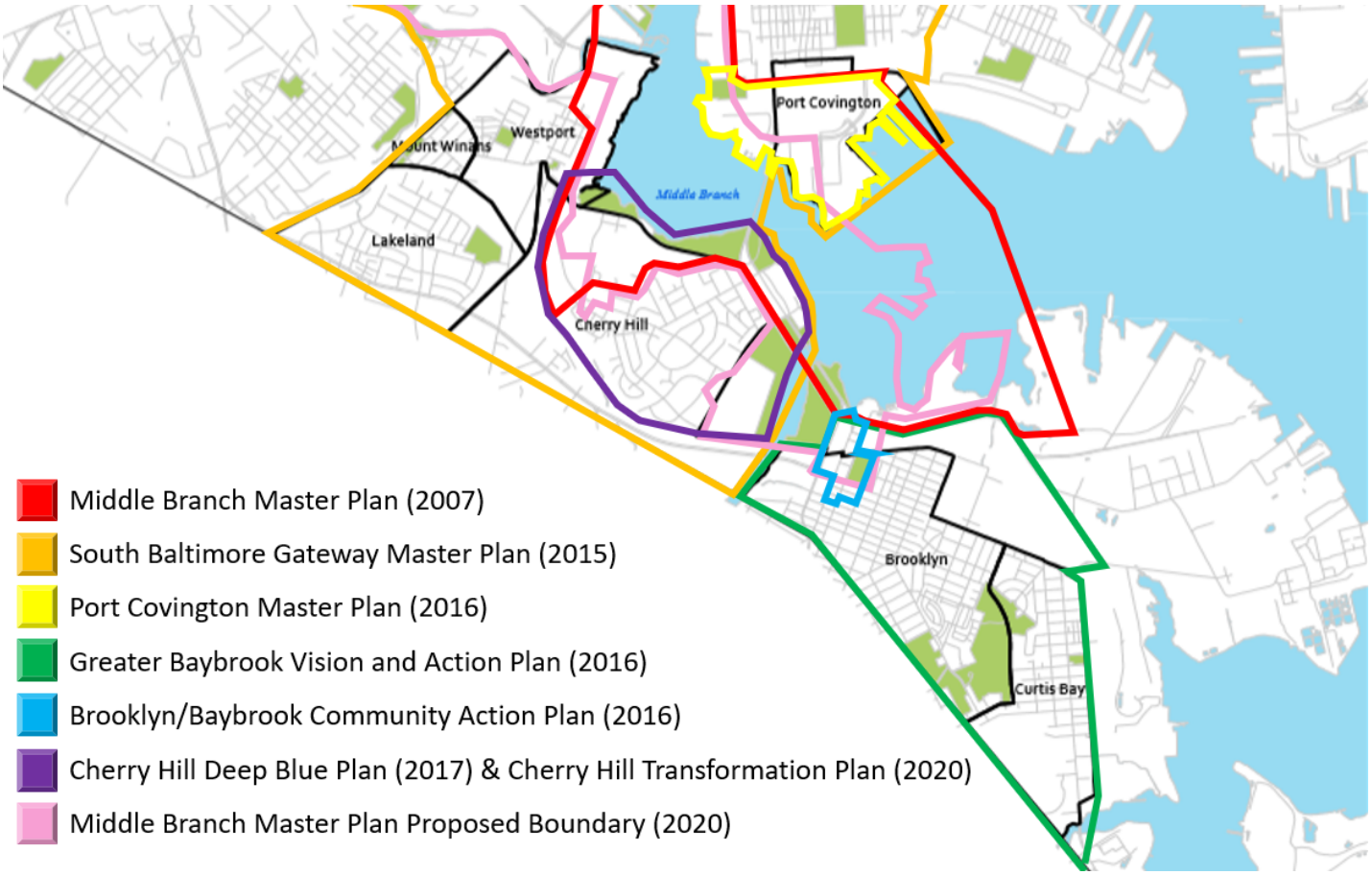
Therefore, equitable implementation is a crucial concept of this plan. The equitable implementation ensures that infrastructure investments are tied back to benefit the existing communities through specific policy recommendations and programming. This plan will be operationalized by identifying and recommending quick wins and providing a road map for activation projects that can show value early in the implementation process.

## The Planning Process

The project team analyzed 21 plans to better understand the priorities of the SB7 neighborhoods, ensure alignment with past proposals, and conduct a gap analysis. The goal was to find the most critical issues, see what has been planned, and identify any differences or similarities the neighborhoods of SB7 may have from one another. Visualizing where plans overlapped helped bring attention to gaps in planning for specific communities, as shown in Figure 1-2. For example, Cherry Hill has been the subject of multiple area plans. In contrast, Curtis Bay, Lakeland, Mt. Winans, and Westport appear not to have received the same amount of planning attention.

There is value in overlaying plan boundaries and comparing the issues raised by these many plans. Many of the same significant problems, such as pedestrian safety, park maintenance, and job opportunities, appeared in multiple plans.

### Figure 1-2. SB7 Study Area overlaid with the boundaries of existing plans.



Another research tool created was an extensive matrix, referred to as the "People's Voice Matrix." The team used all the existing plans, identified all priorities raised by the community, and then calculated the number of times the issue was raised. Figure 1-3 displays the top eight priorities raised by the community.

The project team also conducted approximately 12 interviews with stakeholders in the SB7. The stakeholders interviewed during the planning process were:

- Anne Arundel County Long Range Planning Division
- Baltimore City Department of Planning
- Baltimore City Department of Public Works
- Baltimore City Recreation and Parks
- Baltimore County Department of Planning
- Cherry Hill Development Corporation
- Greater Baybrook Alliance
- Friends of Carroll Park
- Friends of Garret Park
- Furbish Co.
- Rails to Trails Conservancy
- South Baltimore Gateway Partnership

There were many similarities between the priorities raised by stakeholders and those identified in the planning documents reviewed.

1. Enhance **pedestrian** access (streets, etc.)
2. Improve **parks** and street tree maintenance
3. Encourage more **job** creation
4. Address **unsafe** rail crossing
5. Provide more types of **housing**
6. Improve **safety** in parks and on trails
7. Increase food security and access to **healthy food**
8. Preserve **historic** buildings and historic/cultural resources

Figure 1-3. People's Voice. Findings from People's Voice matrix, highlighting the top nine priorities within the SB7 communities.

**Railroad crossing icon created by Evgeni Moryakov from Noun Project


Figure 1-4. Major investments in the SB7 area. These include the work of the South Baltimore Gateway Partnership, the redevelopment project at Port Covington, and the Middle Branch Waterfront Plan.

Overlaps included promoting safety, increasing food sovereignty, and improving the appearance of neighborhoods. Stakeholders raised additional priorities that focused on integrating and connecting the SB7 communities to the waterfront:

- Create connected green spaces.
- Build community pride.
- Couple new public spaces with programming.
- Establish greater connectivity within SB7 and to the Greater Baltimore Region

Overall, this proposed plan incorporates ideas and suggestions of existing plans into new or revised recommendations. The intent is to help validate and carry forward previous plans' initiatives and goals and integrate new ideas throughout the SB7 neighborhoods.

Several planned or existing initiatives are essential to the future of the SB7 neighborhoods, as shown in Figure 1-4.

First, the boundaries of the South Baltimore Gateway Partnership, which includes all SB7 neighborhoods except Brooklyn, Curtis Bay, and Port Covington, is a designated Community Benefit District. The South Baltimore Gateway Partnership makes Local Impact Funds from the Horseshoe Casino explicitly available for community reinvestment.

The upcoming Port Covington development is a significant asset for the rest of the SB7 neighborhoods, offering new jobs and opportunities and green and open spaces. Additional recreational resources are also in the works. These include the Middle Branch Fitness and Wellness Center in Cherry Hill and the interconnected loop trail. Once completed, this loop trail will allow better connectivity and access between the SB7 neighborhoods and the waterfront.

Lastly, the proposed Middle Branch Waterfront development will introduce extensive new green spaces. It will likely lead to other development opportunities, though

this presents future challenges, such as potential community displacement. These initiatives can alter the SB7 as we know it and should be considered in future planning efforts.

## Plan Goals

Although previous plans have been created both for individual and or a subset of neighborhoods within the SB7 area, this plan is unique because it seeks to address the entirety of the SB7 area. As such, this plan seeks to comprehensively focus on the priorities of these distinct and yet interdependent neighborhoods through four overarching goals, which will be expanded upon in Chapter 3:

- Prioritize Equity
- Jumpstart Local Reinvestment
- Improve Public Health
- Increase Connectivity

## Chapter 1 References

[1] Baltimore City Department of Planning. (2007). *Middle Branch Master Plan.* Retrieved from https://planning.baltimorecity.gov/sites/default/files/Middle%20Branch%20Master%20Plan.pdf

# Chapter Two | Existing Conditions + Analysis

## Introduction

This chapter provides an areawide overview of the research and data analysis conducted on existing conditions. It begins by taking a broad look at the SB7 area relative to greater Baltimore in terms of history, land use, road networks, watershed, and built environment features.

It then presents a quantitative and spatial analysis of the area, including trends, and analyzes existing conditions related to land use, parks, public transportation, employment conditions, the local economy, and education. These analyses provide the foundation for the developing the *Green Corridors Concept Plan* and recommendations described in later chapters.

## SB7 in the Setting of the Greater Baltimore Area

Three hundred years of history have shaped Baltimore today. Early industry capitalized on Baltimore's geography on the Middle Branch by building a thriving port where the SB7 neighborhoods stand today. While Baltimore is still a top-performing port, especially for automobile trade, much industry has left the City [1]. The evidence of former industry is still peppered throughout the Middle Branch communities of South Baltimore.

During the 20th century, many of Baltimore City's incinerators, waste treatment, and heavy industrial uses were relocated to the Middle Branch region of South Baltimore, which negatively impacted both environmental and public health in the area.

The history of land-use decisions, industrial practices, and racial segregation is still reflected to this day in the SB7. For example, MD-295 bisected the neighborhood of Westport when it was built in 1950. After World War II, both the Baltimore City Housing Authority and US War Housing Administration announced they would construct 600 housing units in Cherry Hill, near a former incinerator site, for returning Black veterans [2].

Local waterways, specifically Middle Branch were used for dumping toxic chemicals during the 1960s and the 1970s by local chemical companies. Pollutants from earlier industrial practices and activity included substances such as chrome and arsenic being deposited into the local waterways [3]. By the mid-to-late 1970s green space investments such as the Middle Branch Park's 27 acres of waterfront and the Vietnam Veteran's Memorial Bridge arrived in the area.

Despite this history, there is currently momentum in the SB7 community, as well as among neighboring industries and organizations to pursue sustainable practices and work together to improve their community and the environment. Some of these initiatives include the Green Port Initiative via the Maryland Port Administration and projects by active community organizations such as the Friends of Garrett Park, and the Cherry Hill and Filbert Street Gardens. All these groups and others within the SB7 continuously strive to better their neighborhoods.

Figure 2-1. Representatives from Port Covington and from the South Baltimore Six gather to sign the community benefits agreement (CBA) and establish the SB7 Coalition on May 23, 2017 [4]

In 2017 the South Baltimore Six (SB6) communities of Lakeland, Mount Winans, Westport, Cherry Hill, Brooklyn, and Curtis Bay joined with Port Covington to create the SB7 Coalition Inc., to facilitate the delivery of community benefits tied to the future redevelopment of Port Covington (Figure 2-1).

## Land Use and Social Infrastructure

The SB7 boundaries contain primarily residential areas surrounded by industrial land uses. Industrial uses both isolate and fragment these neighborhoods. As a result, there are major barriers to the waterfront and to other potential opportunities for connection to Baltimore City. Figure 2-2 compiles the land use data for Baltimore City with the land use data from neighboring Anne Arundel County and Baltimore County to the south and southwest.

While there exists a fair number of industrial uses along the waterfront, further analysis of land uses specific to the shoreline revealed that there are significant amounts of scrub-shrub to the north and northwest of the Brooklyn neighborhood and forest and open space uses to the northeast of the Cherry Hill, both which represent opportunities to connect residents to the water and recreational activities (Figure 2-3).

Another set of features important to the analysis was the existing social infrastructure. Social infrastructure helps recognize the public dimensions and redevelopment potential of undervalued spaces that are often overlooked. There are various facilities such as libraries, schools, community centers, parks, and other public services strewn throughout SB7 (Figure 2-3). Although these community assets exist, there is currently no existing strategy that recognizes them as interdependent elements of a system. This situation can limit “the breadth and depth of the public life” of the SB7 community [5].

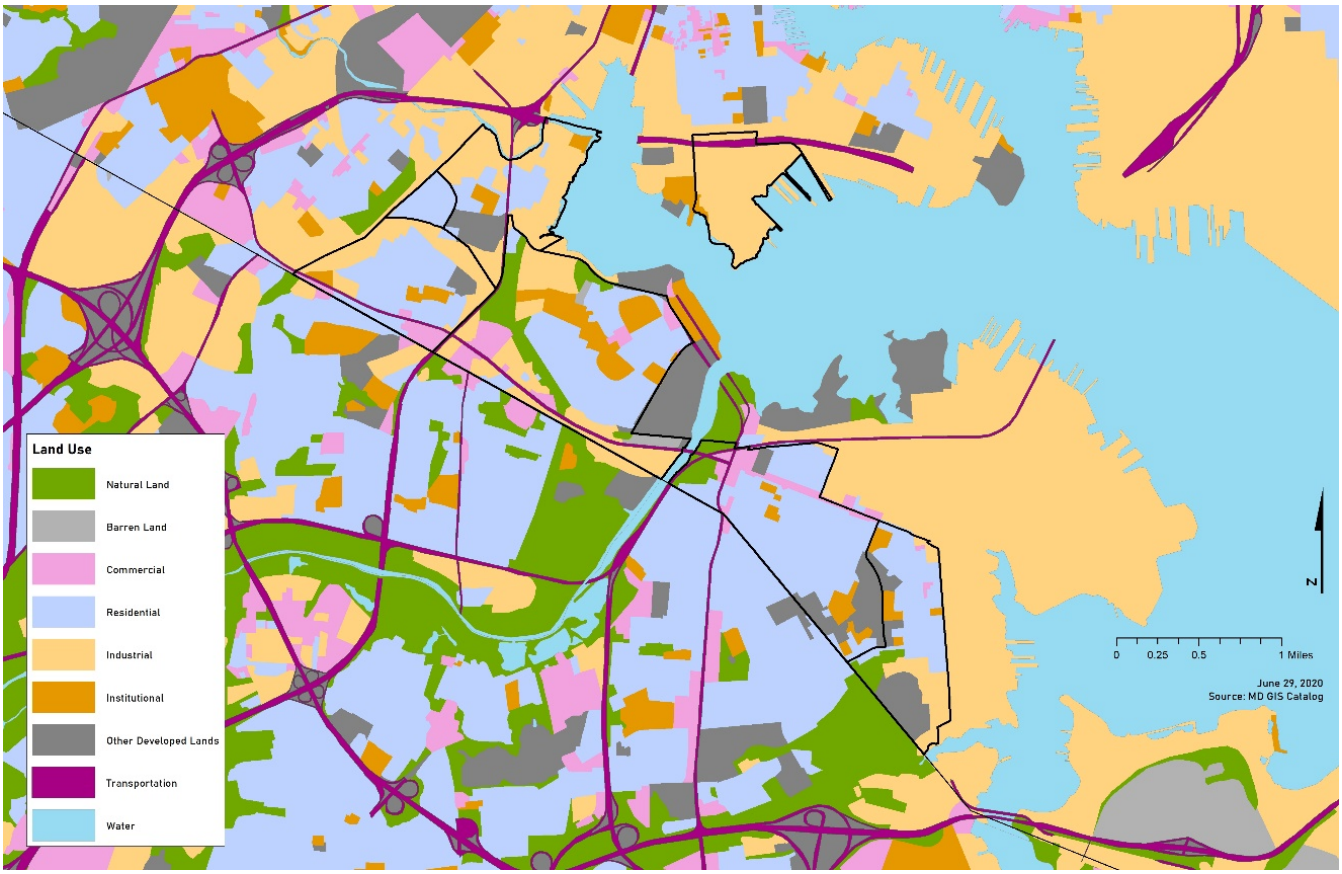



Figure 2-2. Compilation of current land uses for the SB7 and neighboring tracts in Anne Arundel County and Baltimore County [6] [7] [8].

Decreased investment in social infrastructure hinders the community and its residents from making social connections to one another and networking. Social infrastructure is necessary for nurturing public life, as well as for addressing and preventing some of the most pressing concerns of contemporary urban life: countering social isolation, negotiating difference, and creating places for all– regardless of age, race, gender, or social class [9].

This analysis identified several activity hubs or places for gathering that can be interwoven to link green investments with the social infrastructure.

Physical constraints were also analyzed and include flood plains, potentially contaminated sites, and high vacancy rates, all which would have varying levels of feasibility to address. For example, flood plains and potentially contaminated sites would be areas where limited development should occur, as opposed to vacancy rates which would require further investigation for potential reuse or redevelopment of a particular area.

## Transportation Network Conditions

The SB7 is bounded by West Patapsco Avenue to the south, Interstate-95 (I-95) to the north, and MD-295/Baltimore-Washington Parkway to the west.

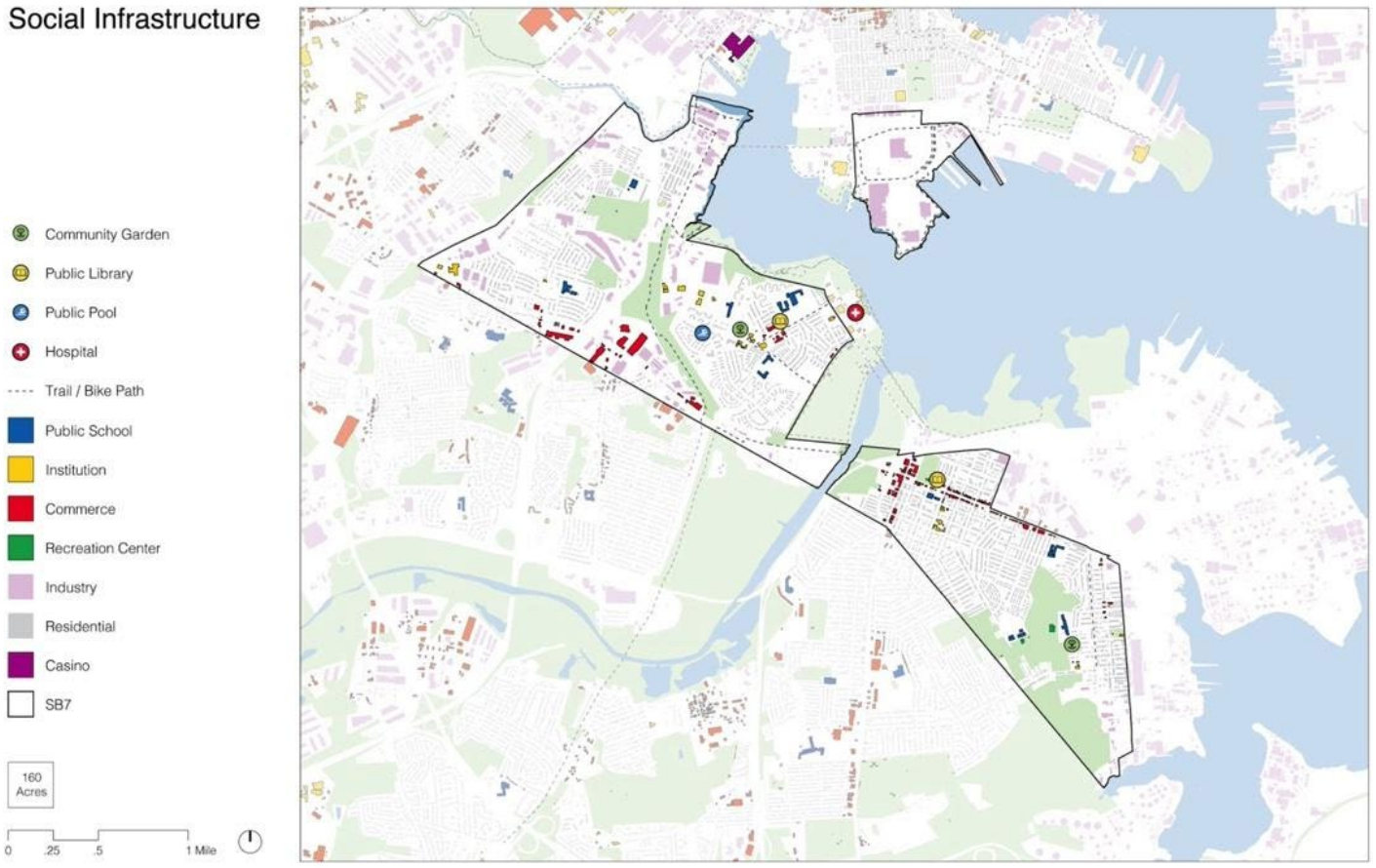



Figure 2-3. Social infrastructure within the SB7 includes elements of public life that contain elements of place making, civic engagement and institutions that have important social ties to the community.

There are commercial rail lines along the edges of most of the neighborhoods which limit their connections to other areas, both within Baltimore City and to areas in Anne Arundel and Baltimore counties (Figure 2-4).

Within each of the neighborhoods, are one or two thoroughfares (Waterview Avenue, East Patapsco Avenue, West Patapsco Avenue, Annapolis Rd, Hollins Ferry Rd., and South Hanover Street) along which most traffic travels. Given the geography of the area limiting the number of east-west roadways and the proximity to the industrial ports, these roads receive a great deal of industrial activity, up to 18 percent freight traffic in some places [10]. Figure 2-5 shows freight volumes in the area.

SB7 is serviced by several forms of public transportation (see Figure 2-6). The MTA Light RailLink runs through the SB7 along the CSX rail through Westport and the western edge of Cherry Hill. There are stops in Westport and Cherry Hill, with each stop seeing ridership of 600-650 riders/weekday [11].

Ten bus routes service parts of the SB7, with the CityLink Silver Bus Route being the only high-frequency option. There is no singular route that connects all the neighborhoods, making intra-SB7 travel by bus difficult. The Gwynns Falls Trail is the only off-street bike trail in the area.

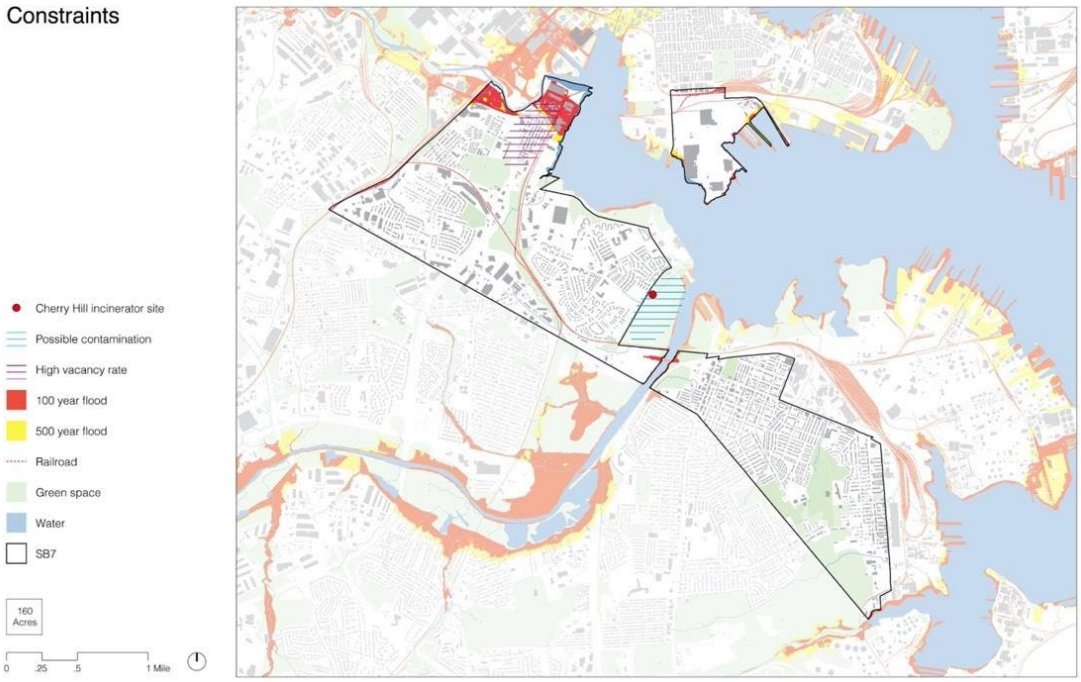



Figure 2-4. Compilation of physical constraints within the SB7 include flood plains to the north of the Westport neighborhood, the CSX rail tracks that separate Cherry Hill from Lakeland and Mt Winans, and parts of Westport, and the incinerator and a possible contamination site along the southeastern shoreline that borders Cherry Hill.

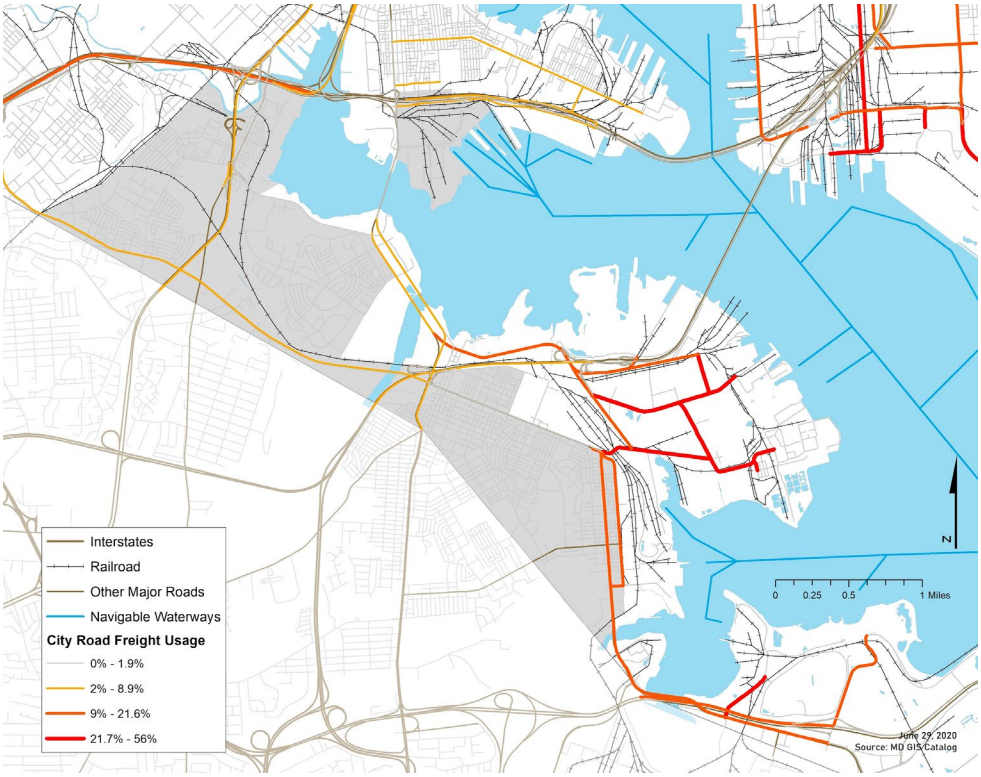
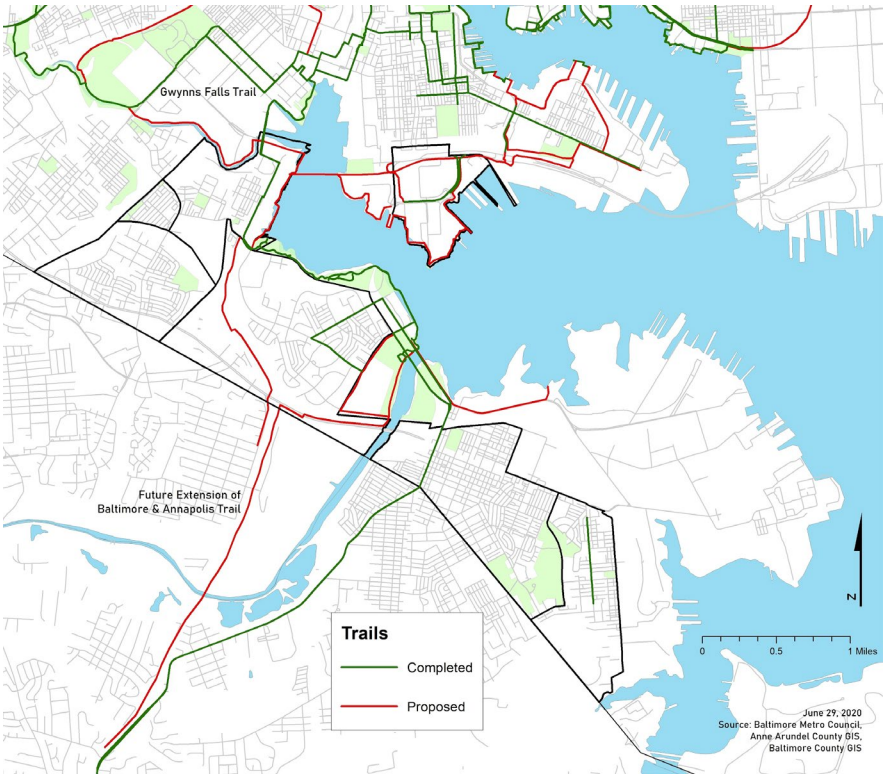



Figure 2-5. Existing transportation networks within the SB7, and 2019 city road freight usage. Most freight traffic is concentrated near Curtis Bay to the east, the Brooklyn neighborhood to the northeast, and Port Covington to the east.


Figure 2-6. Existing Public Transportation Networks. The SB7 is serviced by several forms of public transportation including one light rail line with stops in the Cherry Hill and Westport neighborhood, the MARC commuter rail, and several bus lines.

Figure 2-7. Existing and proposed trail systems within the SB7 connects the neighborhoods to rest of Baltimore City and to Anne Arundel County and Baltimore County. The closest point of existing access to the adjacent counties is in the Brooklyn neighborhood. The proposed trails seek to complete the network of trails within the SB7. However, current proposals do not include connections to the trail in Curtis Bay.



It enters from the north through Westport and follows the Middle Branch through Cherry Hill before terminating at the Patapsco River. There are some miles of on-street bike lanes, but these are on busier streets and seem to be used for parking more than cycling.

There are proposals to extend the Baltimore-Annapolis Trail from its current terminus in Glen Burnie (Anne Arundel County) to the Gwynns Falls Trail, thereby linking Maryland's largest city with its capital city by trail (see Figure 2-7).

## Employment Conditions and Local Economy

Currently, there are few major employers in the SB7 area. There are 22.7 businesses per 1,000 residents in the area, compared to the city average of 30.9. The jobs that do exist tend to be low-skilled and low-wage. The unemployment rate in SB7 is 12 precent, which is higher than what the national average was during the peak of the Great Recession [13].

All three Community Statistical Areas (CSA) rank below the City average on businesses under four years old, with the Westport/Mount Winans/Lakeland CSA ranking last in the City with only 12.8 percent of businesses [14]. As such, job growth presents a challenge to the area.

However, proposals for the new Port Covington development project nearly 35,000 permanent jobs will be created when the project is fully built, as well as over 14,600 temporary construction jobs over the life of the project [15].

## The Digital Divide

A major barrier to opportunity is access to reliable internet, and specifically access to reliable broadband. Internet access has become particularly important during the 2020 COVID-19 pandemic, which has forced a lot of jobs and education to migrate online. Like other communities that face challenges with expanding affordable and reliable expanded broadband, this increased demand for reliable internet access has created additional disadvantages for the SB7. Site visits revealed that a lot of public housing and other households use satellite dishes.

Although satellite broadband exists, it is unclear whether the households that depend on satellite internet can access broadband services. Although satellite internet is an appropriate solution for providing internet to remote or rural areas that have sparse markets, it can leave urban areas like the SB7 behind particularly in terms of cost and performance. Satellite internet connection is typically slower and less reliable (often considered the ISPs' last resort) while broadband allows for connection to high-speed Internet Service Providers or ISPs [16].

According to the American Community Survey (ACS) 2018 5-year estimates, around 41 percent of households lack fixed wired internet services, such as cable, fiber, or digital subscriber line service. Within the SB7 the neighborhood breakdown of households with no internet is 26.2 percent in Lakeland/Mt Winans/Westport, 31.9 percent in Brooklyn/Curtis Bay, and 33.8 percent in Cherry Hill [17].

These substandard rates of internet access limit employment, workforce development and educational opportunities for residents in the SB7. While most high-paying, salaried professions within the information economy were able to transition teleworking and telecommuting, many low-wage, low-skilled jobs remain in the service economy and tend to be professions that require high person-to-person contact [18]. Lack of internet limits the ability for residents to develop the necessary skills to make them competitive to transition and participate in the information economy.

While the proportion of households within the SB7 with no internet or broadband are comparable to other parts of Baltimore City, census tracts within neighboring counties report the opposite. The analysis revealed that although the Census Tract 2505 within Curtis Bay reported 39 percent of households lacked internet access, in the neighboring Census Tract 2505 in Anne Arundel County only 5 percent of households lacked internet access and reported that 85 percent of households had broadband access (Figure 2-8).

Overall, there is a clear digital divide in these neighborhoods, where access to broadband is only reported for approximately 57 percent of the SB7 neighborhoods. This is likely attributed to problems with last-mile connectivity as well as the cost for both infrastructure and service. The last mile brings the connection to residents' homes within the telephone exchange or through the cable company serving the area. Weak last-mile connectivity can also contribute to a reduction in the reliability of existing broadband.

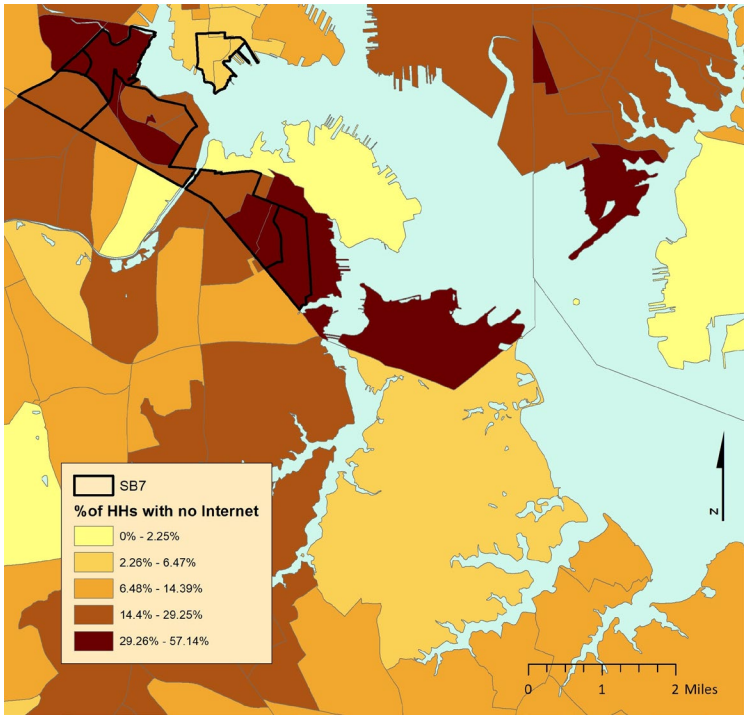



Figure 2-8. Percentage of households in the SB7 with no internet compared to census tracts within neighboring counties [19].

## Schools and After-School Programs Existing Conditions.

The SB7 neighborhoods contain nine public schools. There are two elementary schools, five elementary/middle schools, and two high schools. Benjamin Franklin High School at Masonville Cove is noted for its environmental, agricultural, and natural resources Career and Technical Education (CTE) program. The proximity to the Middle Branch offers a great opportunity for environmental science education. Connecting the environmental program at Benjamin Franklin with citizen science opportunities for the community members of Brooklyn and Curtis Bay may be a way to improve locals' environmental understanding and make use of

existing resources at the high school and the Middle Branch Waterfront.

In Baltimore City, once a child reaches middle school age, they are given the option to choose the school they wish to attend. For some schools, there is an application process that may entail academic evaluation, while other schools use the choice lottery system where a lottery is used if there are more students requesting acceptance than they have available. All elementary-aged students attend their neighborhood school.

There are multiple community and recreation centers in the SB7. These include Farring-Baybrook Recreation Center between Brooklyn and Curtis Bay, Curtis Bay Recreation Center, and the Cherry Hill Fitness & Wellness Center. Baltimore City has four Boys and Girls Club locations, one of which is located at the corner of Garrett Park in Brooklyn, and another located directly across from Florence Cummings Park in Westport. The Boys and Girls Clubs offer youth-targeted education programs focused on rounded youth development. There is great potential for widespread youth impact in the SB7 with two Boys and Girls Clubs within its bounds.

## Existing Green Infrastructure and Environmental Conditions

Existing green infrastructure includes green stormwater management, parks, open spaces, community gardens, isolated areas of concentrated tree canopy, and several trails and bike paths that serve portions of the study area. One of the major environmental areas of concern is impacts from urban heat islands.

### Green Stormwater Infrastructure:

Examples of green stormwater infrastructure have been installed in scattered locations throughout the study area (Figure 2-9). Unfortunately, their lack of connection hinders their performance. Most runoff from streets and other impervious surfaces goes into the stormwater system or directly to into tributaries of the Gwynns Falls or the Patapsco River.

### Community Gardens

There are two major community gardens in the SB7; Cherry Hill Urban Community Garden, located in Cherry Hill, and Filbert Street Garden, located in Curtis Bay. These gardens increase food access, reduce vacant blight, and create economic and educational opportunities for residents.

### Open Spaces

While Figure 2-9 shows a fair number of open spaces, these areas tend to have limited accessibility. Reedbird Island in Brooklyn, the Westport waterfront, and Mt. Auburn Cemetery are all open areas with limited access to residents. This limited access reduces their ability to function as spaces for community programming and recreation.

### Tree Canopy

Baltimore's existing tree canopy is 27.4 percent, far below the 40 percent tree canopy recommended for healthy cities [20]. However, the majority of Baltimore's tree canopy lies within the large parks in the northern and western parts of the city. The SB7 has a relatively sparse tree canopy at about 21 percent coverage.

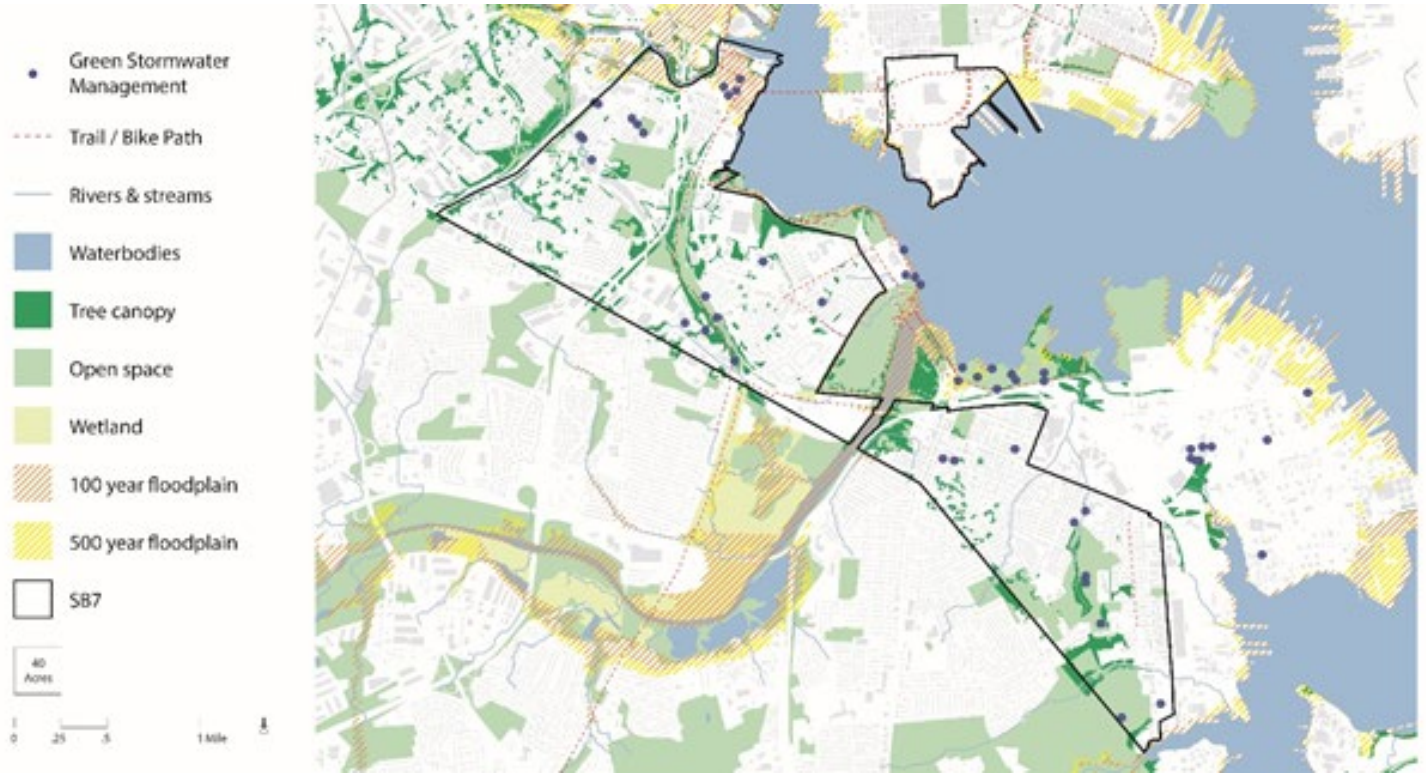



Figure 2-9. Existing environmental and green infrastructure conditions in the SB7.

A healthy tree canopy can provide many benefits to a neighborhood including lower temperatures, soil erosion mitigation, and improved resident health.

### Urban Heat Island

The urban heat island map shows higher temperatures in urban areas [21]. This problem puts pressure on the environment, public health, and the economy of the region. Less affluent communities are disproportionately negatively impacted by the urban heat island effect. They are often exposed to the heat since they need to walk to work and do other activities. Cooling their homes is also a challenge and sometimes unaffordable (See Figure 2-10).

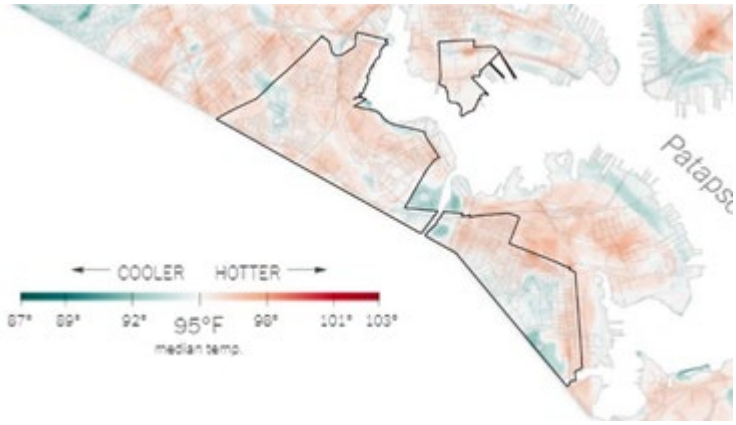



Figure 2-10. Heat Island Effect in the SB7 neighborhoods.

### Parks

There are 10 parks in the SB7. They vary in size, quality, and program. Table 2-6 shows the attributes of each park.

# Table 2-1. SB7 Parks and Park Attributes and Conditions

| Park | Neighborhood | Acres | Amenities | Condition |
|---|---|---|---|---|
| Florence Cummings | Westport | 4.3 | 1 Basketball court | Good |
| Indiana Avenue | Westport | 1 | Small playground | Good |
| Hollins Ferry and B+O | Mt Winans | 0.8 | 1 Basketball court | Poor |
| Paca Street | Mt Winans | 2.1 | Tennis Courts | Poor |
| Lakeland | Lakeland | 11 | 2 Basketball courts<br>2 Baseball fields<br>1 Swing set | Good |
| Middle Branch | Cherry Hill | 36 | View of city skyline<br>Crabbing, kayaking, canoeing, boat ramps (at adjacent Broening Park)<br>Fishing piers (no license required)<br>Wetlands<br>Trails<br>Picnic areas<br>Baltimore Rowing and Water Resource Center<br>Accessible to by MTA Bus Routes and light-rail | Good |

# Table 2-1. SB7 Parks and Park Attributes and Conditions (Continued)

| Park | Neighborhood | Acres | Amenities | Condition |
|---|---|---|---|---|
| Cherry Hill | Cherry Hill | 85 | Swimming pool<br>2 Basketball courts<br>2 Tennis courts<br>1 Playground | Fair |
| Garrett | Brooklyn` | 7.3 | 2 Basketball courts<br>2 Tennis courts<br>1 Playground<br>Trail<br>Recreation Center | Fair |
| Farring-Baybrook | Brooklyn | 132 | 4 Baseball fields<br>Football/Soccer fields<br>Indoor soccer<br>Recreation center<br>2 Basketball courts<br>2 Tennis courts<br>2 Playgrounds<br>1 Swing set | Good |
| Curtis Bay | Curtis Bay | 2 | 1 Basketball court<br>1 Playground<br>1 Swing set<br>1 Skatepark<br>Recreation Center | Fair |


Figure 2-11. Environmental hazards within the SB7 include hazardous waste sites, impaired streams, impaired waterbodies, and brownfields. Brownfields and Superfund sites are eligible for federal programs and funding to help clean up contaminated land.

### Regional Watershed

The SB7 region is covered by three watersheds, the Gwynns Falls watershed, the Patapsco watershed, and the Baltimore Harbor watershed. Lakeland, Mt. Winans, and Westport lie largely in the Gwynns Falls watershed, Cherry Hill and Brooklyn are in the Patapsco watershed, and Curtis Bay is in the Harbor watershed.

### Environmental Hazards

The SB7 region has a significant number of brownfields, hazardous waste management facilities, and one superfund site. Their presence presents hazards to the communities of SB7. They are mainly located in sites around the bay. These are industrial sites or former industrial sites (See Figure 2-11).

## Housing in the SB7

There are approximately 9,628 households in the SB7 according to ACS 2018 5-year estimates. Approximately 45 percent of these households are in Brooklyn and Curtis Bay and the other 55 percent are found in Westport, Mt Winans,

Lakeland, and Cherry Hill. Housing in the SB7 is medium-density residential consisting of single-family detached, rowhouses, and multi-family dwelling typologies. Most housing structures are one to two stories, in addition to some three-story multi-family buildings. The primary building material is red brick with pitched or flat roofs. Many homes in the area were built before 1960, pre-dating the use of insulation in residential building construction.

Though housing trends differ among neighborhoods within the SB7, the entire area faces issues with high vacancy rates and decreasing homeownership (Table 2-2). The high residential vacancy is not unique to the SB7 area and is a ubiquitous challenge faced by Baltimore City as a whole. In 2018, the vacancy rate in Baltimore was 19 percent, about double the rate in Maryland (10 percent) and 1.5 times the rate in the United States (12 percent).

### Westport/Mt Winans

For the sake of data analysis, these two neighborhoods were grouped together. However, readers of this plan should be aware that these are very different neighborhoods, particularly with different housing profiles. The Westport and Mt. Winans neighborhoods have the highest rates of vacant properties compared to the rest of the SB7 and Baltimore City. Between 2010 and 2018, these neighborhoods saw a dramatic decrease in vacancies through city-supported demolitions of about 200 properties, mostly public housing units. However, while the percentage of vacant housing units decreased significantly, the total number of occupied housing units increased only marginally, and almost a quarter of the housing stock remains vacant today. Simultaneously, there was a significant shift towards renting, with the number of owner-occupied units decreasing by 41 percent and the number of renter-occupied units increasing by 58 percent. Meanwhile, the median housing value of owner-occupied units in Westport/Mt. Winans has fallen significantly in the last 10 years, with a distinctly negative trend in comparison with other neighborhoods in the SB7.

### Lakeland

While Lakeland saw a 16 percent decrease in owner-occupancy between 2010 and 2018, the neighborhood maintains the overall highest rate of homeownership (44 percent) in the SB7. Lakeland also has the highest median value of owner-occupied units ($104,050), and the highest median rent ($1,147). As of 2018, there are 48 percent more vacant housing units than there was a decade prior. However, the vacancy rate (18 percent) remains just under the Baltimore City average (19 percent).

### Cherry Hill

Cherry Hill saw the largest rate of increase in vacant properties between 2010 and 2018 (67 percent). Yet, it maintains the lowest rate of overall vacancy within the SB7 at only 12 percent, a rate significantly lower than Baltimore City (19 percent) and on par with the national average (12 percent). Cherry Hill also has the lowest rate of homeownership in the SB7 (16 percent). This rate is drastically lower than the Baltimore City average (47 percent) and the national average (64 percent). One factor influencing the rates of homeownership and vacancy in Cherry Hill is

that the neighborhood has a large percentage of public housing. Cherry Hill Homes, managed by the Housing Authority of Baltimore, has 1,281 public housing units, 37 percent of the total housing units in Cherry Hill

### Brooklyn/Curtis Bay

The Brooklyn and Curtis Bay area has notably the highest vacancy rate at about 29 percent of its total housing stock in 2018. The area saw a 13 percent decrease in owner-occupancy. However, while median home value fell by 3 percent, the median rental cost increased by 21 percent, pointing to a trend towards higher rental demand in the area.

Table 2-2. SB7 Housing Trends by sub-area. a) Median home value b) Total housing units, vacant housing units, vacancy rate c) Owner-occupied units, renter-occupied units, median rent.

| a) | Median Home Value | | |
|---|---|---|---|
| Neighborhood | 2010 | 2018 | % Change |
| Westport/Mt Winans | $122,400 | $91,000 | (-26%) |
| Lakeland | $101,300 | $104,050 | (+3%) |
| Cherry Hill | $78,100 | $92,300 | (+18%) |
| Brooklyn/Curtis Bay | $100,600 | $97,480 | (-3%) |

| b) | Total Housing Units | | | Vacant Housing Units | | | % Vacant |
|---|---|---|---|---|---|---|---|
| Neighborhood | 2010 | 2018 | % Change | 2010 | 2018 | % Change | 2018 |
| Westport/Mt Winans | 1,261 | 1,060 | (-16%) | 475 | 242 | (-49%) | 23% |
| Lakeland | 1,754 | 1,808 | (+3%) | 224 | 332 | (+48%) | 18% |
| Cherry Hill | 3,538 | 3,451 | (-2%) | 255 | 426 | (+67%) | 12% |
| Brooklyn/Curtis Bay | 6,107 | 6,150 | (+1%) | 1,461 | 1,787 | (+22%) | 29% |

| c) | Owner-Occupied | | | Renter Occupied | | | Median Rent | | |
|---|---|---|---|---|---|---|---|---|---|
| Neighborhood | 2010 | 2018 | % Change | 2010 | 2018 | % Change | 2010 | 2018 | % Change |
| Westport/Mt Winans | 428 | 254 | (-41%) | 358 | 564 | (+58%) | 913 | 422 | (-54%) |
| Lakeland | 764 | 645 | (-16%) | 766 | 831 | (+8%) | 1,015 | 1,147 | (+13%) |
| Cherry Hill | 532 | 487 | (-8%) | 2,751 | 2,538 | (-8%) | 517 | 638 | (+23%) |
| Brooklyn/Curtis Bay | 1,999 | 1,744 | (-13%) | 2,647 | 2,619 | (-1%) | 749 | 909 | (+21%) |

# Constraints and Opportunities

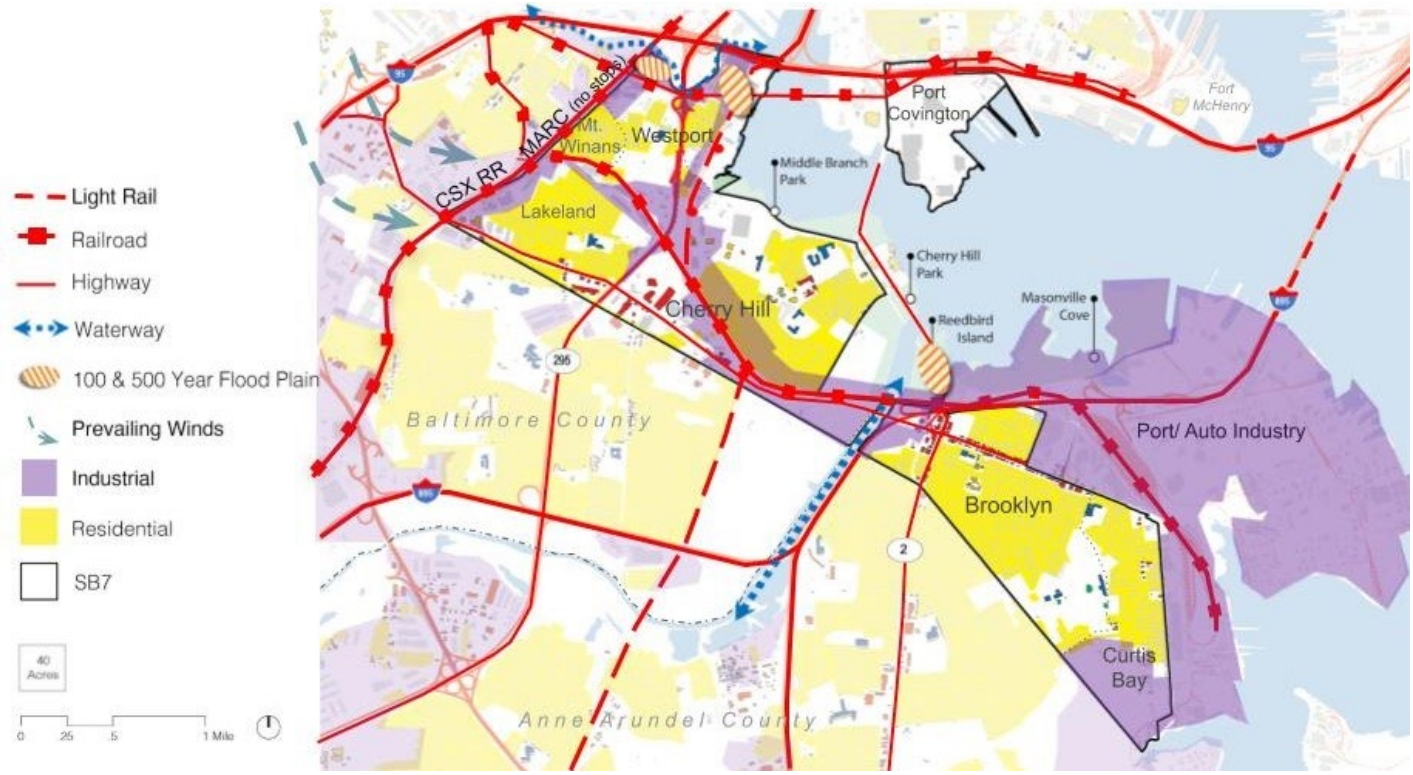
Based on the data analysis, a set of constraints and opportunities maps were developed. The term “constraints” refers to elements in either the natural or built environment which may pose limitations to the surrounding community. For example, I-95, the CSX rail line, Gwynns Falls, and the Middle Branch of the Patapsco River, collectively create an east-west barrier separating the SB7 from the remainder of Baltimore City. Physical constraints, however, may also present hidden opportunities.

While the SB7 is separated from the remainder of the City, this isolation may pose an opportunity to establish itself as a type of special destination such as a leading environmental and recreational area. The term “opportunities” refers to areas, both in the built and natural environments, that could be further leveraged to benefit the community. One example is the existing open green space along the waterfront. This network has the potential to provide the community with parks, trails for active transportation and recreation, and climate adaptation.

## Constraints

The three key constraints identified are: isolation from Baltimore City, lack of green elements, and a significant amount of industrially zoned land use. First, the major highways and rail, namely I-95 to the north, I-895 to the east, the CSX Rail lines to the west and south, and MD-295 (the Baltimore Washington Parkway that bisects Westport) act as the boundaries within the SB7 neighborhoods. Other streets such as West Patapsco Avenue, which traverses along the southern edge of the SB7, are also highlighted due to its lack of landscaping and pedestrian infrastructure (i.e., narrow, incomplete, or obstructed sidewalks). Land use is another visible issue. Existing and zoned industrial uses surround residentially zoned areas and divide up certain neighborhoods.

Because of these constraints, the SB7 neighborhoods are faced with challenges related to accessibility and connectivity. The constraints map (Figure 2-12) illustrates “pockets” of color-coded commercial, institutional, and educational facilities that are scattered throughout the area. Accessibility to some of these service areas is difficult for people without cars, the elderly, parents with small children, individuals with disabilities, and others looking to access not only these services but also public transit areas such as bus stops. Overall, these issues stem from things such as land use, as shown by the amount of industrially-zoned areas surrounding residential areas, and incomplete streets making it difficult for pedestrian activity and non-motorized forms of transportation.




## Figure 2-12. SB7 Neighborhoods Constraints Map

Additional SB7 constraints include:

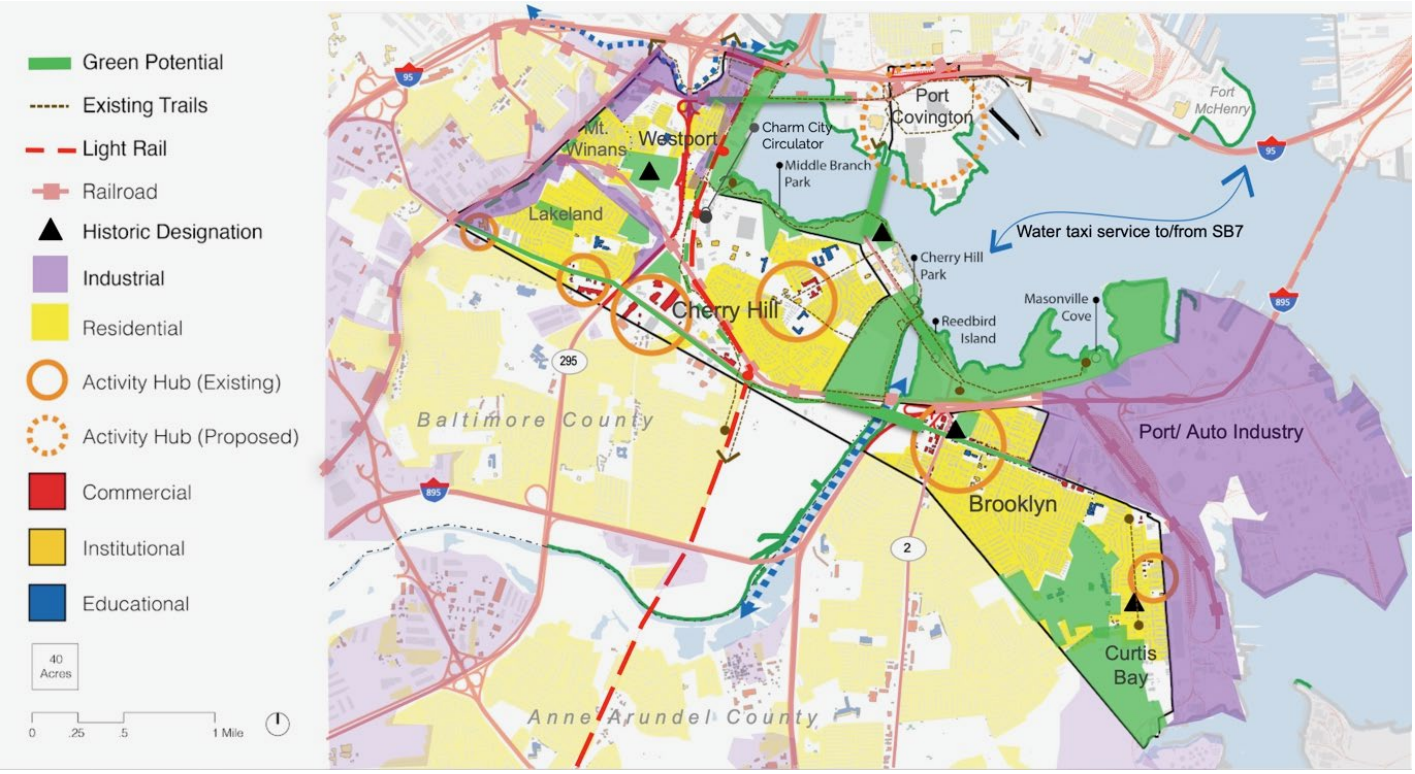
- Neighborhoods are not well connected to one another.
- Lack of reliable and affordable internet access.
- Incomplete sidewalks and poor pedestrian infrastructure and amenities.
- Industrial uses that limit diversifying the local economy and small business creation.

### Opportunities

The term “Green Potential” defines any number of elements such as complete streets, green infrastructure, nature nodes, tree canopy, and urban gardens.

Other opportunities include several existing sustainability initiatives such as the work being completed by the Maryland Port Administration’s GreenPort initiative and the Port's restoration work at Masonville Cove. Activity hubs have been identified and are inclusive of most social infrastructure essentials, such as commercial, institutional, and educational facilities.

Transportation elements such as an opportunity for water taxis, extension and improvement to the existing foot/bike trails, existing bridges, and shuttle service (e.g., partnering with the Charm City Circulator and the city’s Parks and Recreation Department) to promote community centers and connection to local services are just some of the potential opportunities for the area.




## Figure 2-13. SB7 Neighborhoods Opportunities Map

Other features identified include proximity to Masonville Cove and Reedbird Island, which present opportunities for environmental education and citizen science in the SB7.

Lastly, there are four landmarks in the SB7 with a National Register of Historic Places designation. These structures include the Mount Auburn Cemetery, the Vietnam Veterans' Memorial Bridge, the Garrett Park Monument, and the Polish Home Hall AME Church. These four areas traverse the SB7 from southeastern Curtis Bay to the northwest in Westport. These historical landmarks can be leveraged to increase the visibility of the SB7 and can be expanded to include sites within Cherry Hill as indicated in the 2008 Cherry Hill Master Plan.

Given the rich history, there is a potential opportunity to make the SB7 a destination for historical and heritage tourism and events.

Figure 2-14. View of the Veterans Memorial Bridge, also known as the Hanover Street Bridge, stretches across the Patapsco River connecting Cherry Hill to Port Covington [22].

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# Chapter Three | Neighborhood Contexts and Sub Area Profiles

## Introduction

This section contains narrative data specific to certain neighborhood characteristics, demographic trends, and other important issues relative to each sub-area of the SB7. The purpose is to capture variation between the neighborhoods as well as set some context amongst the three sub-areas in order to establish potential opportunities and develop project goals for a concept plan. The S7 sub-areas therefore include Lakeland, Mt Winans, and Westport; Cherry Hill; and Brooklyn and Curtis Bay. This chapter concludes with a description of goals developed for the *Green Neighborhoods: A Plan for the South Baltimore Seven*.

### Sub-Area 1 – Lakeland, Mt Winans, and Westport

Lakeland, Mt. Winans, and Westport are among the oldest communities in Baltimore City. Lakeland was originally known as "Minersville," a small community, providing worker housing consisting of two-story brick homes near the pits of the Iron Works company. In these early days, Lakeland was considered an all-white neighborhood, and Mt. Winans was an all-black neighborhood, leaving Westport identified as the most racially mixed neighborhood in the area. For different reasons, both industry and population declined over time. Today, disinvestment and highway construction presented more challenges to Lakeland, Mt. Winans, and Westport, resulting in hardships for these communities in attracting new businesses, people of varied backgrounds, and mixed-income housing.

Lakeland, Mt. Winans, and Westport neighborhoods consist of approximately 351 acres, 49 acres, and 319 acres respectively, and have a total population of 7,119 residents. According to the 2015 South Baltimore Gateway Master Plan, this portion of the SB7 is home to more children compared to the rest of the City [1]. This area is also home to a growing number of Hispanic residents, nearly 7 percent.

Land use consists mostly of dense residential uses surrounded by industrial uses and sparse commercial uses. Vacant property is most prevalent in Westport. However, compared to other areas in Baltimore City, the number of vacant properties is considerably lower. Assets within this sub-area include the Mount Auburn Cemetery (in Westport), limited retail in Lakeland, Lakeland Park, and the Lakeland Community and STEAM (Science, Technology, Engineering, Arts, and Math) Center.

Mt. Winans is the smallest neighborhood and consists mainly of housing with few amenities such as Paca Park, some churches, and a

small convenience store. Collectively, the sub-area has experienced a decline. However, due to its proximity to the future Middle Branch Waterfront Development, has the potential to attract new investments and revitalization.

One goal of the Westport, Mt. Winans, Lakeland Master Plan was to reverse decades of disinvestment in this sub-area [2]. A similar objective was also noted in the 2015 South Baltimore Gateway Master Plan. These plans note actions such as strengthening neighborhood character, quality, and livability to benefit existing residents and attract new private investment by promoting a diversity of housing types to prevent displacement.

Existing planning documents also focused on assets such as the Mt. Auburn Cemetery and the Westport light rail station as areas to improve and use as anchors for new neighborhood and waterfront development. Future investments in this sub-area should focus on improving transportation options, preserving homeownership, reconnecting residents to open space and the waterfront.

## Sub-Area 2 – Cherry Hill

According to historical documents, Cherry Hill was purposely planned as an African American suburb to prevent the expansion of black homeownership in the adjacent predominantly white neighborhoods. The location of Cherry Hill was strategically chosen to further limit the growth of the community given its border with the river. These factors contributed to a complicated history of the neighborhood with regards to structural, environmental, and systemic racism. Examples include being surrounded by industry resulting in an inability to increase housing footprint; the city incinerator and landfill; the site for the largest concentrations of public housing on the east coast; war-effort workforce housing that was never completed; and its isolation from the rest of the Baltimore city [3]. Yet, despite these disadvantages, this community has persevered, making their community a place for African American advancement.

Today, Cherry Hill is still predominantly an African American neighborhood. The total population is estimated at 8,541 and the neighborhood consists of more than 300 acres. Its population has seen a steady and sustained population increase. However, this population increase is due to the loss of public housing in other areas of the SB7, resulting in an influx of residents who depend on public housing moving into Cherry Hill where most of the public housing in the SB7 is now concentrated.

Cherry Hill has limited access to supermarkets and therefore is characterized as a food desert. These are typically determined by low-income census tracts with a substantial number or share of residents with low levels of access to retail outlets selling healthy and affordable foods. Even though the area holds a food desert status, there are currently no fast-food restaurants. Furthermore, the liquor and tobacco store densities are lower than the rest of the City: 1.2 liquor stores per 100,000

residents and 15.8 tobacco stores per 100,000 residents.

Other assets include the MedStar Harbor Hospital, the Cherry Hill Branch of the Enoch Pratt Free Library, the Family Health Centers of Baltimore, the Baltimore Police Department Southern District office, the Cherry Hill Urban Community Garden, three schools and multiple churches. The Cherry Hill community has several community development initiatives already underway. For example, with regards to education the following programs were identified:

- **Education and the "cradle to college" program which includes** initiatives for Early Childhood Education for 2-year-old to 2nd grade and the Judy Center, which provides services to mothers at the point of conception for up to 2 years.
- **Transportation component of the CTE for Baltimore City Public Schools** as a result of being located near several major routes (I-95, I-895, I-695, MD 295, BWI Airport, and the CSX Rail line).
- **Partnership with the Maritime School** that connects prospective students to explore opportunities in the maritime industry.
- **Adult High School,** which is an initiative that aims to help individuals who were unable to complete high school earn their diploma and provides workforce development. This effort includes a partnership with Baltimore City Community College - which will offer students entry into an associate degree program.

## Sub-Area 3: Curtis Bay and Brooklyn

While the focus of this study only includes Curtis Bay and Brooklyn - Baltimore city neighborhoods, it is important to note that Greater Baybrook is a name given to the area encompassing Brooklyn, Curtis Bay, and Brooklyn Park (located in Anne Arundel County).

These three neighborhoods are grouped together under the name Baybrook given their shared resources and history of collaboration in addressing challenges faced by the communities. A non-profit community development organization known as the Greater Baybrook Alliance was formed in 2016 to coordinate change within the Baybrook area and facilitate action.

Curtis Bay covers an area of approximately 330 acres. Industrial uses border the neighborhood to the north, east, and south, which blocks access to the waterfront. Pennington Avenue (MD 173) runs one-way south as the main corridor of the community, and contains businesses, homes, and places of worship on both sides of the corridor. Curtis Bay Park, Curtis Bay Recreation Center, and the local firehouse are in the center of Curtis Bay.

Filbert Street Garden is two blocks away from Curtis Bay Park and is an important asset for urban agriculture for the communities. Curtis Bay and Brooklyn share assets like Bay Brook Elementary/Middle School, Curtis Bay Elementary School, Benjamin Franklin High School, and Farring-Baybrook Park.

There are two opportunities in this area:

- Transform Pennington Avenue (MD 173) to a vibrant Main Street and multi-modal corridor.
- Create a system of parks encompassing an empty block (Spruce Street & Pennington Avenue), Curtis Bay Park, Filbert Street Garden, and Farring-Baybrook Park.

The neighborhood of Brooklyn is surrounded by Cherry Hill to the northwest, Curtis Bay to its southeast, the Patapsco River to its north, and Brooklyn Park in Anne Arundel County to the south. The Patapsco River borders Brooklyn on two sides, yet there is a considerable lack of safe access to the waterfront. Heavy industrial uses to the north as well as highway and rail tracks to the north and west create physical barriers to the waterfront.

Garrett Park is another underutilized resource of the community, though it is under redevelopment now. It is advantageously located on East Patapsco Avenue near the Maree G. Farring Elementary School, the Boys and Girls Club, and the Enoch Pratt Free Library – Brooklyn Branch. Garrett Park, the waterfront, and Masonville Cove are important nodes for a future open space and green network. However, no complete pedestrian connections exist.

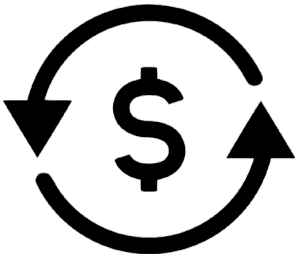
Benjamin Franklin High School, notable for its environmental, agricultural, and natural resources CTE program, is directly to the east of the Brooklyn line in Curtis Bay and serves the Brooklyn neighborhood. Farring-Baybrook Recreation Center and Arundel Village Park are both on the southeastern border of Brooklyn and serve the community. Overall, however, there is a notable lack of usable greenspaces within the Brooklyn neighborhood. Housing in the neighborhood consists rowhomes and single-family detached housing, ranging in condition from well-maintained to neglected, dilapidated, and abandoned.


Figure 3-1. Several Brooklyn and Curtis Bay Assets and Anchor Institutions: Garrett Park, Filbert Street Garden, and Maree G. Farring Elementary/Middle School.
Source: University of Maryland, College Park, URSP705 and Google Earth.

# Concept Plan Goals

## Prioritize Equity

Prioritize equity by using green investments to create just and inclusive economic opportunity, to ensure green placemaking decisions and policy are sensitive to the history of systemic barriers and prioritize sustainable funding mechanisms for these interventions. Encourage economic diversification, help activate a local economy that is resilient to market shifts and create employment and entrepreneurial pathways for low-skilled workers.

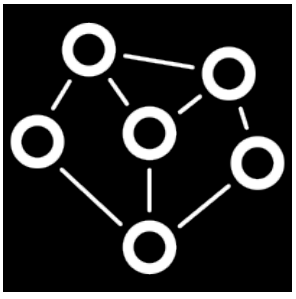


## Jumpstart Local Reinvestment

Jumpstart local reinvestment using green investment to empower residents' sense of governance and enhance local capacity networks to promote increased stewardship over neighborhood assets. Improve the aesthetics of key commercial corridors and neighborhood main streets with expanded tree canopies and low-maintenance landscaping to attract new investment and grow small businesses.

## Improve Public Health

Improve public health by extending green investment into residential areas. Create a network of low-maintenance community-owned recreational spaces to improve both physical and mental well-being. Leverage green infrastructure solutions to mitigate the adverse impacts of climate change, like heat island effect, and improve local community health outcomes.



## Increase Connectivity

Use green investments to create greater physical continuity of walkable and multi-modal spaces, and to improve road safety for vulnerable road users. Develop and support wider internet access to address the digital divide, and better connect residents to employment and educational opportunities across the Greater Baltimore Area.

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# Chapter Four | Green Corridors Concept Plan

## Introduction

The concept plan is part of a complementary two-part strategy that includes both a physical concept plan that identifies specific locations for key physical interventions, accompanied by an implementation plan with policy and programmatic recommendations to support equitable neighborhood investment. This chapter examines the physical concept plan at three levels of granularity. Moving from the most zoomed out scale to the least, the following sections discuss:

- The overall SB7 concept plan
- More detailed sub-area plans
- Specific site interventions and green space typologies at the project scale

## SB7 Neighborhoods Concept Plan

The physical concept plan (Figure 4-1) developed for the SB7 neighborhoods is a green investments plan that focuses on connectivity through green networks. Based on the information gathered, candidate locations were identified to implement various greening and open space solutions, as well as targeted areas for community development opportunities. This plan is meant to create a network that ties the residential neighborhoods of the SB7 into the new Middle Branch Waterfront development and to improve connectivity with the surrounding region.

The green dotted lines represent a network of complete green streets that help knit together a sequence of parks and open spaces of varied size and function and improve walkable connections between the neighborhoods. Key connections are made to link together areas identified as activity hubs, which are defined as clusters of community assets. Connecting these hubs is a critical component of the strategy because it will enable the neighborhoods to share access to important resources and expand the impact of local investments to mutually benefit the residents of all the neighborhoods in the SB7.

In addition to the complete green street corridors that tie the neighborhoods together, several key waterfront access points were also identified, which should be prioritized as waterfront gateways (Figure 4-1; blue arrows). These gateways are essential to providing equitable access to the waterfront and ensuring that the existing SB7 residents feel ownership and connection to the new waterfront development coming to the Middle Branch.

Importantly, the gateways also provide access to the loop trail, an essential piece of bicyclist and pedestrian infrastructure that provides safe and healthy connections throughout the Middle Branch and into the surrounding regions.

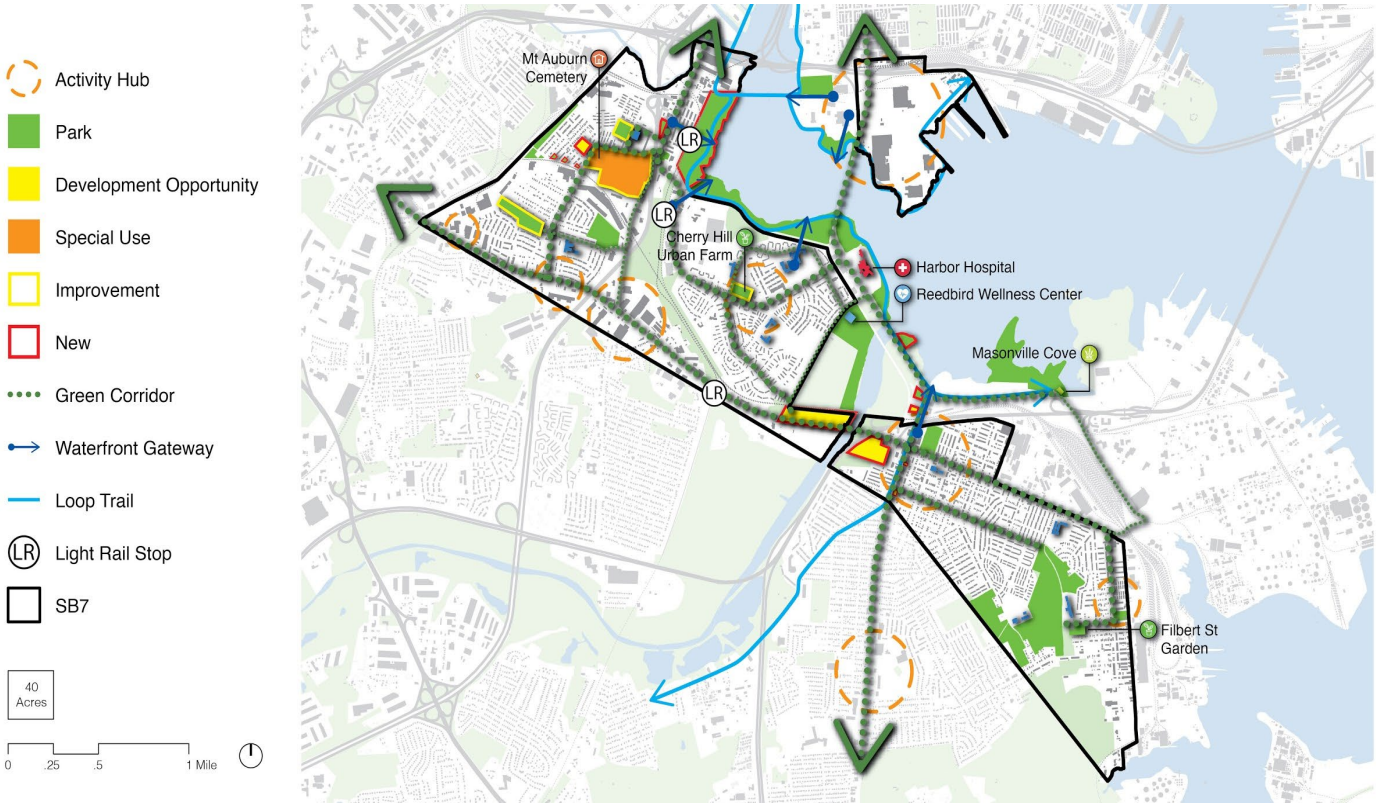



Figure 4-1. Middle Branch Neighborhoods Concept Plan

Anchoring all the new connectivity corridors, gateways, and paths, strategically identified sites will provide important nodes of green investments, community development, and programming. The concept plan identifies which of these sites are existing nodes targeted for improvement (yellow border) or are currently non-existent but have the potential to be developed as a new community asset (red border).

The following sections provide recommendations on intervention types for these sites. The last section of this chapter contains further detailed suggestions for specific sites. The subsequent chapters will focus on respective policy and programmatic implementation strategies.

## Middle Branch Sub-Areas

For the purposes of this plan, the SB7 was divided into three sub-areas in order to better understand the unique qualities and needs of each neighborhood at the local level. The three sub-area groupings reflect certain relative similarities, including but not limited to: geography, population size, housing typology and urban morphology, transit options, and waterfront access. Figure 4-2 shows the boundaries of the three sub-areas: Lakeland/Mt Winans/Westport, Cherry Hill, and Brooklyn/Curtis Bay. The following sub-area concept plans identify ideal locations for various intervention types, which are represented on the maps by a color-coded classification system.

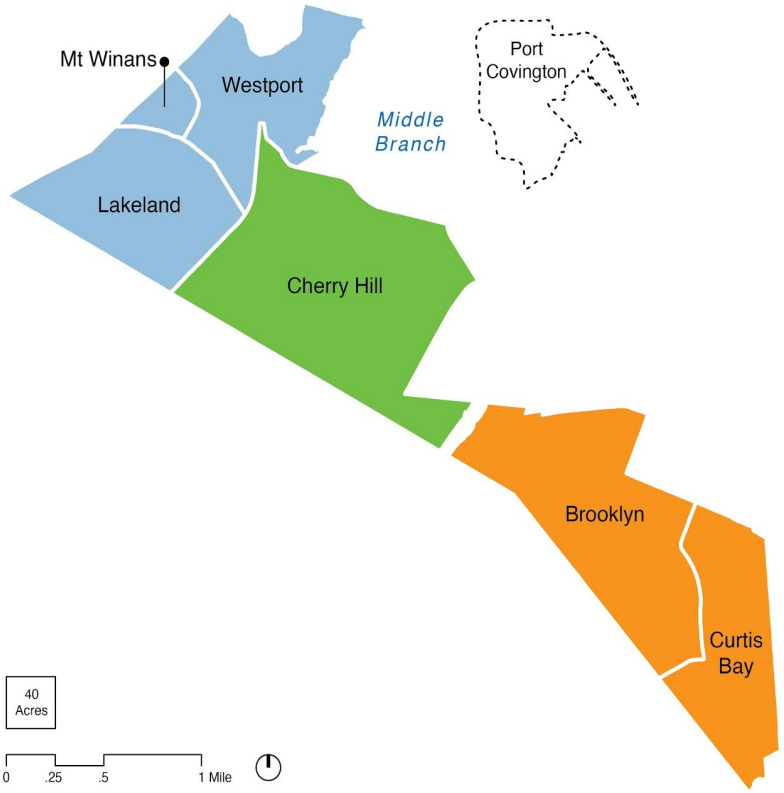



Figure 4-2. Middle Branch Sub-Areas

## Sub-Area 1: Lakeland/Mt Winans/Westport

The Lakeland, Mt Winans, and Westport sub-area (Figure 4-3) contains four major corridors: Annapolis Road, Waterview Avenue, Hollins Ferry Road, and Patapsco Avenue. The concept plan calls for prioritizing complete green streets along these routes to enhance walkable connections between the neighborhoods. These routes also create connections between key sites for green investments, transportation improvements and community development opportunities. With the new development coming to the Westport waterfront, an important connectivity strategy will be tying waterfront access to the Westport light rail station, the Annapolis Road commercial corridor, and the residential neighborhoods that lie on the other side of the Baltimore-Washington Parkway. These connections can be made by strengthening the Kent Street waterfront gateway, greening, and vacant property improvements along Annapolis Road, and making pedestrian improvements to the Maisel Street Bridge and Waterview Avenue, the only points of connection across 295. Just off the intersection of Waterview Avenue and Hollins Ferry Road and where Westport, Mt Winans, and Lakeland border each other, several underutilized sites provide opportunities to create neighborhood anchors that fulfill missing community assets and reinforce neighborhood inter-connection.

The 174-acre Mt Auburn Cemetery has the potential to become a neighborhood institution through the introduction of community programming.

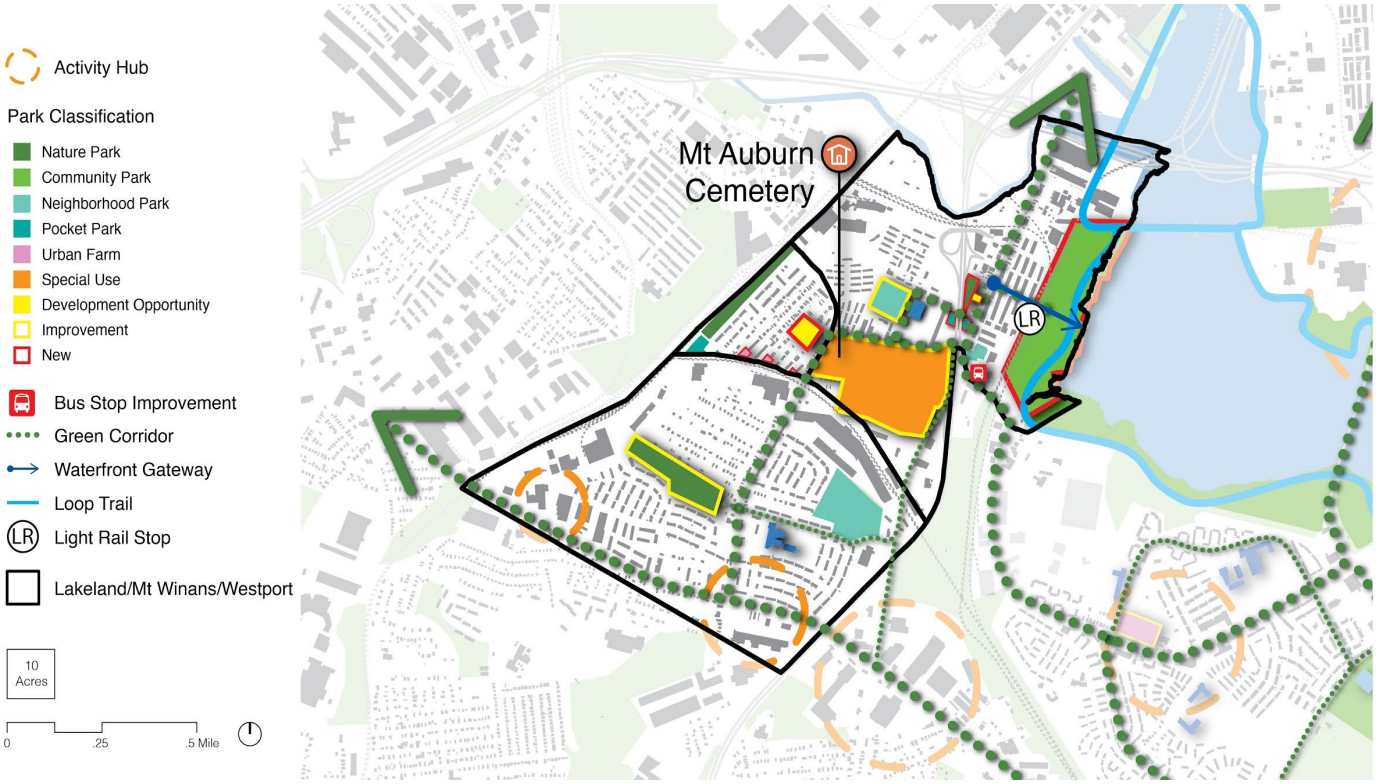
Behind the residences that sit opposite Hollins Ferry Road in Mt. Winans, is a large, vacant lot (yellow), that was formerly a school, that has the potential to be redeveloped for the community as a mixed-income, mixed-use development to provide affordable housing, supportive services and resources, and improved food access to a neighborhood that is currently categorized as a food desert.

Operating in tandem with the new development, a deconstructed urban farm could be installed in the series of vacant lots located along the rail line. This urban farm would provide important resources to a food desert community and foster social and physical connections between the residents of Lakeland, Mt Winans, and Westport.

## Sub-Area 2: Cherry Hill

The Cherry Hill neighborhood (Figure 4-4) is a critical juncture between the SB7 neighborhoods. Therefore, there should be focused efforts to add and improve key points of connection. The blue arrows represent priority gateways for waterfront access, which would originate at the Cherry Hill light rail station and New Era Academy High School/Carter G. Woodson Elementary School. Connecting schools to the waterfront is an important aspect of the plan's education programmatic strategy, which will be discussed further in the following chapter. Another key point of connection is the Patapsco Avenue bridge between Cherry Hill and Brooklyn.

Figure 4-3. Sub-Area 1 Concept Plan: Lakeland/Mt Winans/Westport



Currently, Patapsco Avenue, which extends East-West from Brooklyn through Lakeland, is a long stretch of roadway that lacks accommodation for pedestrians and bicyclists. There is also currently no connector street crossing over the railroad to access the central hub of activity in Cherry Hill. However, there is an existing pedestrian/vehicular desire path bisecting the railroad across the yellow-labeled development opportunity site adjacent to the Patapsco Avenue bridge. There is a potential to fulfill the critically missing connection here as part of a new community development project. This site is currently on the market for development, which creates a significant opportunity to shape this area as a green connectivity corridor.

## Sub-Area 3: Brooklyn/Curtis Bay

The Brooklyn and Curtis Bay sub-area (Figure 4-5) connects to the other neighborhoods in the SB7 via two routes: the Patapsco Avenue bridge and the Hanover/Potee Street bridges. Currently, neither of these access routes has pedestrian/bicyclist accommodation, and the infrastructure surrounding these points do not provide a welcoming transition between the gateways and the downtown hub of activity in Brooklyn. There are several recommended key sites along Hanover Street and Patapsco Avenue to prioritize green investments, transportation improvements and community development in order to create a walkable gateway connecting Brooklyn and Curtis Bay to the waterfront, Cherry Hill, and the rest of the SB7.

Figure 4-4. Sub-Area 2 Concept Plan: Cherry Hill

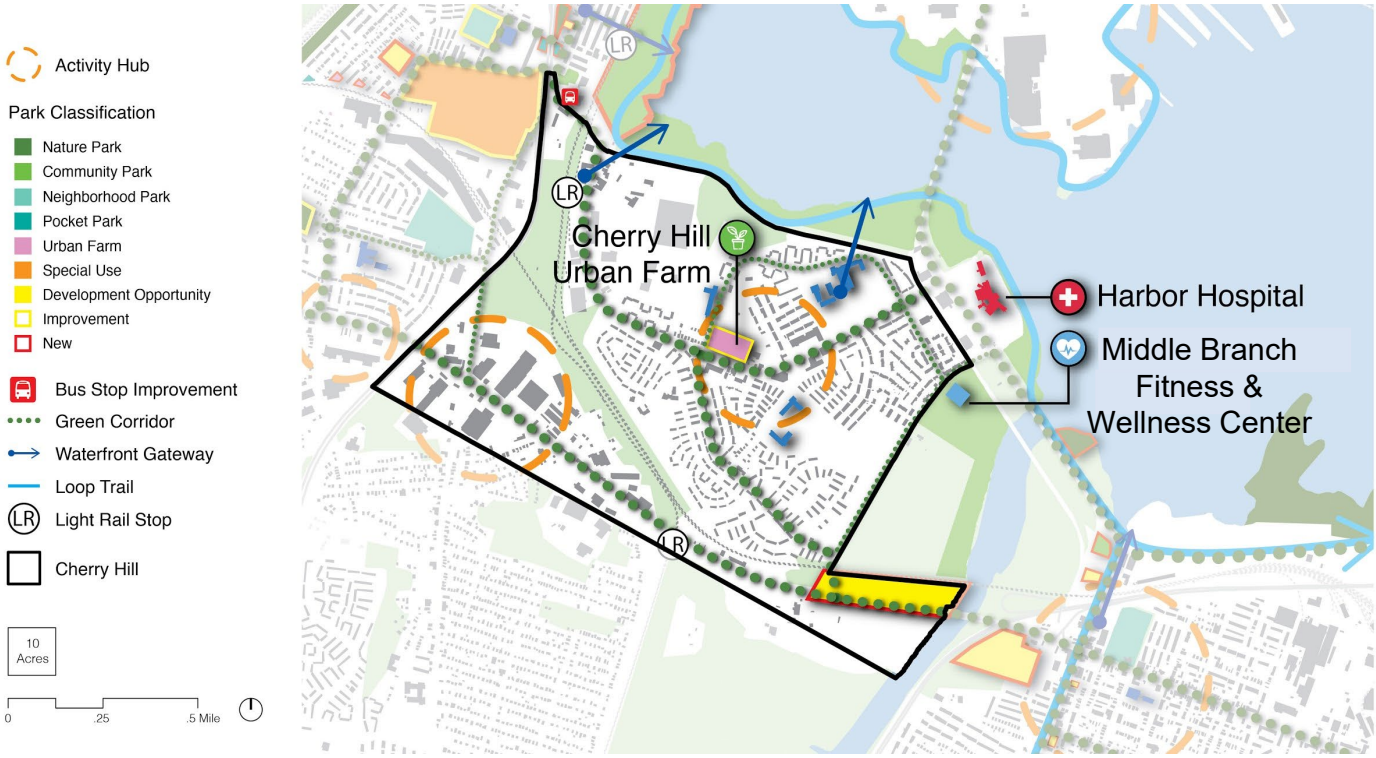



Figure 4-5. Sub-Area 3 Concept Plan: Brooklyn/Curtis Bay

## Green Corridors Design Typologies and Specific Site Interventions

This section describes recommendations of potential design interventions for several candidate locations at the site-level. The following images are a kit of parts to help deconstruct the different components related to the designs. This design palette is presented as a kit of parts to allow the community to mix and match different design elements to suit different street-level needs and conditions.

The site interventions described in this chapter are not a comprehensive list. Rather they were identified as important and advantageous locations to jumpstart the creation of the green corridors, with other segments of the network to be completed incrementally.

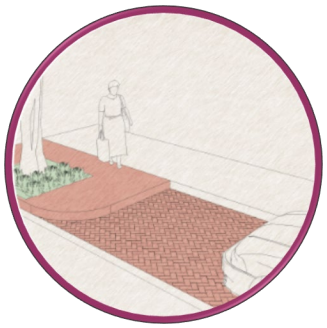


**Figure 4-6. Pervious Paving and Planters** provide stormwater management and drainage along sidewalks and provide protective barriers, enhancing the pedestrian experience.

**Figure 4-7. Soil Cells** provide more benefits to support urban tree growth. Compared to structural soil, soil cells do not disturb the local infrastructure by using non-compacted soil volumes and onsite stormwater management.

**Figure 4-8. Green Bus Shelters** provide protection from extreme heat and a sense of enclosure to passengers during their waiting time. Sedum plants are a low-maintenance, drought resistant choice that helps filter PM2.5 from the air.

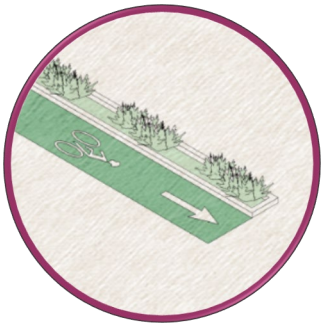


**Figure 4-9. Green Protected Bike Lanes** are colored pavement bike lanes with rain gardens to support continuous inflow, which separate bicycle traffic from vehicle traffic. In addition to increasing comfort, the stormwater runoff from vehicle and bicycle traffic do not mix.

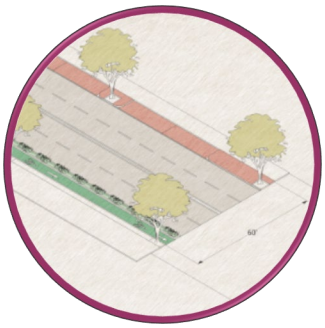


**Figure 4-10. Primary Corridor** design typologies are an appropriate choice to retrofit minor arterials and collector streets. Green protected bike lanes and soil cells to support urban tree growth can help transform these into multimodal connectors.

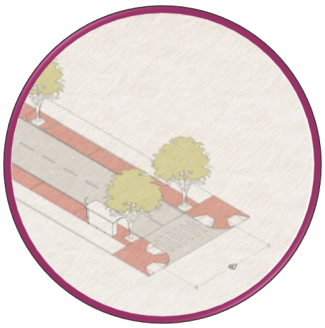


**Figure 4-11. Commercial Corridor** design typologies make use of pervious paving and tree planting to support walking and are most appropriate in areas that seek to generate a lot of foot traffic or that have high levels of bus ridership. Green protected bike lanes are not recommended along commercial corridors with high traffic density.

**Figure 4-12. Residential Corridor** design typologies are appropriate for local streets with lower speeds. This typology preserves on-street parking in neighborhoods. Street trees promote traffic calming and help lower surface and air temperatures close to home.

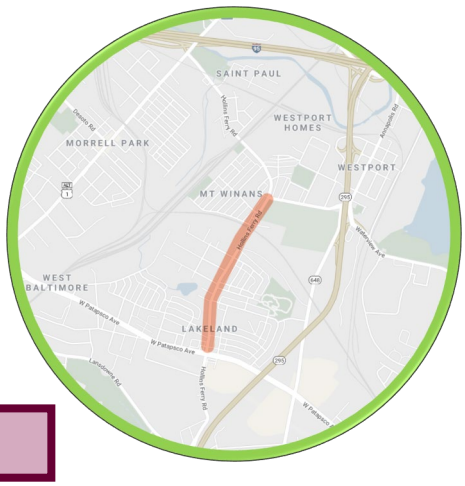
**Figure 4-13. Recreational Path** design typologies are appropriate for connecting activity hubs that are separated by primary arterials and which have heavy freight traffic volumes. These paths are separate from vehicle traffic and help transform thoroughfares into multimodal parkway that can be used for recreation or active transportation commuting.

The four site-level interventions identified in this plan serve both as proposals to initiate the creation of the green corridors network and as examples for the community to model other segments in the network afterwards.

To demonstrate the diversity of applications, the locations for the four site-level interventions were selected from all three sub-areas. The following locations were chosen:

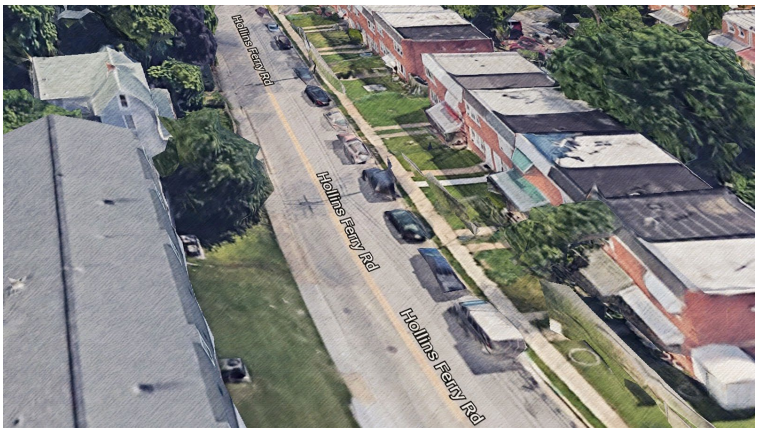
| Sub-Area | Site Location |
|---|---|
| Sub-Area 1 | Hollins Ferry Road |
| Sub-Area 2 | Bus Stop at Waterview Avenue |
| Sub-Area 3 | Shell Road |
| | Pennington Avenue |

# Figure 4-14. Site 1: Hollins Ferry Road (Sub-Area 1)



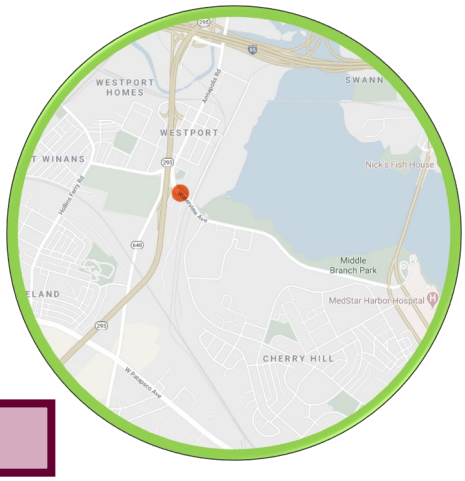

The proposal for Hollins Ferry Road stretches between the intersection with Waterview Avenue and the intersection with West Patapsco Avenue. This segment is primarily residential, characterized by missing middle housing units like duplexes near the southern portion of the segment, as well as commercial properties approaching the intersection with West Patapsco Avenue. The proposal seeks to provide more comfortable pedestrian connections between the Mt. Winans and Westport neighborhoods to the closest major supermarket, LA Mart located in the Lakeland neighborhood.

## Current State




## Proposal

# Figure 4-15. Site 2: Bus Stop on Waterview Avenue (Sub-Area 2)

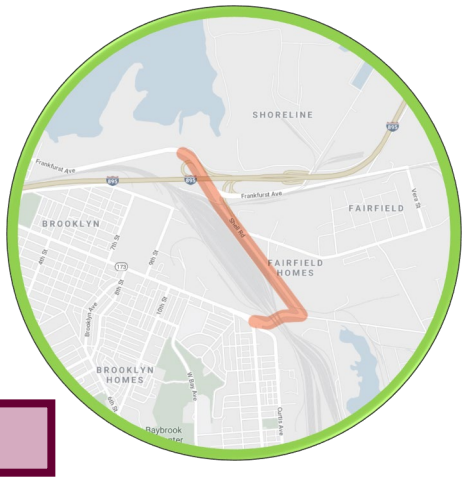



The proposal for the northbound bus stop on Waterview Avenue seeks to improve safety conditions for riders. Installing a mid-block crossing shortens the distance riders need to walk between the northbound bus stop and its south bound pair stop. Green cross-walk pavement markings improve visibility for pedestrian crossings and the street tree plantings along the median act as traffic-calming elements. The proposal includes installing a bus shelter, paving the stop and creating a curb cut to improve accessibility for riders with impaired physical mobility and to accommodate those who require mobility aids.

## Current State


## Proposal

# Figure 4-16. Site 3: Shell Road (Sub-Area 3)




The Shell Road proposal stretches from the intersection with East Patapsco Avenue and the intersection with Frankfurst Avenue and aims to provide an additional multimodal connection to link the Brooklyn and Curtis Bay neighborhoods with the Masonville Cove Environmental Center. In addition to supporting more mode choice and promoting recreational activity, the proposal will provide an important low-stress connection for students at the Benjamin Franklin High School and the Curtis Bay Elementary School pursuing extracurricular activities at the Masonville Cove Environmental Center. A recreational corridor can help eliminate physical barriers to environmental science opportunities.

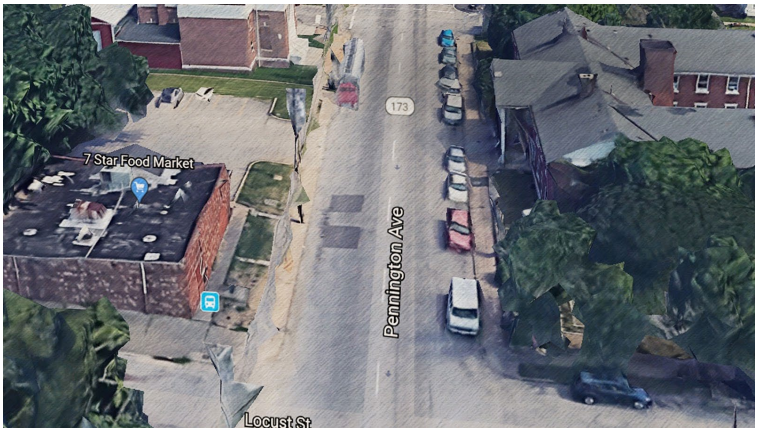
## Current State


## Proposal

# Figure 4-17. Site 4: Pennington Avenue (Sub-Area 3)


The proposal for Pennington Avenue stretches from the intersection with East Patapsco Avenue to the intersection with Birch Street and seeks to transform this commercial corridor into a walkable main street. This segment of Pennington Avenue is an important freight corridor. Widening the sidewalks would eliminate some on-street parking, which would help reduce the number of conflict points with through traffic and decrease the amount of parking-related cruising that occurs along the corridor. These changes will improve traffic flow for urban freight, local vehicles, and transit like the CITYLINK Silver Bus Route.

## Current State




## Proposal

# Chapter Five | Strategies + Programs

## Overview of Physical Strategies + Programmatic Strategies

To support the conceptual plan, the project team developed a series of both physical and programmatic strategies to help facilitate the goals referenced in Chapter 3. These strategies are designed to be interrelated with one another to ensure cohesive implementation. Furthermore, these strategies were developed to build off the existing strengths and assets present within the SB7. The table below gives a brief description of the strategies and their corresponding goals.

## Physical Strategies

**Complete Green Streets** – Incorporate green stormwater best management practice (BMP), tree plantings, other greening tactics and pedestrian-oriented designs for better environmental functionality and a safer, more attractive streetscape.

**Green Alleys** – Improve sense of public safety by leveraging alleys to pilot green stormwater BMP and other greening tactics for more effective drainage to create new, attractive public spaces for residents and low-speed connections for bicyclists and pedestrians.

**Better Bus Stops** – Create a network of safe and more accommodating bus stops using pop-up shelters and tactical pedestrianization.

## Programmatic Strategies

**Digital Community Hubs** – Deploy Wi-Fi enabled and repurposed school buses to tackle the digital divide in the short-term and serve as a multifunctional community public space.

**SB7 In Demand** – Create channels to access upskilling and reskilling workforce development training related to the digital economy and the green economy.

**Green Community-Based Care** – Expand the number of urban farms and pilot a coordinated care nutrition program with existing urban gardens and parks.

**Patapsco Environmental Education Program & Symposium (PEEPS)** – Connect the students at Benjamin Franklin High School to projects that allows them to integrate environmental science more meaningfully with the green investment recommendations laid out in this plan, culminating in a yearly symposium where students are given the opportunity to present their research to the community and city officials.

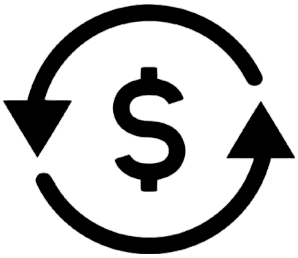
**Healthy Homes Weatherization Outreach Campaign** – Upgrade residential infrastructure to reduce energy and resource consumption and help low-income residents lower their disproportionately high utility bills and home maintenance costs.

**Investment Without Displacement** – Proactively target vacant properties for acquisition by a community land trust to maintain permanently affordable housing into the future when neighborhood investment raises home values and rents.

# Concept Plan Goals

## Prioritize Equity

Prioritize equity by using green investments to create just and inclusive economic opportunity, to ensure green placemaking decisions and policy are sensitive to the history of systemic barriers and prioritize sustainable funding mechanisms for these interventions. Encourage economic diversification, help activate a local economy that is resilient to market shifts and create employment and entrepreneurial pathways for low-skilled workers.

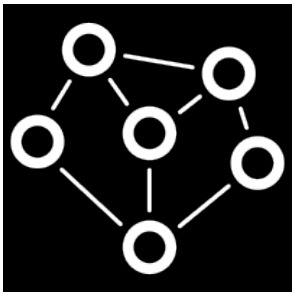


## Jumpstart Local Reinvestment

Jumpstart local reinvestment using green investment to empower residents' sense of governance and enhance local capacity networks to promote increased stewardship over neighborhood assets. Improve aesthetics of key commercial corridors and neighborhood main streets with expanded tree canopies and low-maintenance landscaping to attract new investment and grow small businesses.

## Improve Public Health

Improve public health by extending green investment into residential areas. Create a network of low-maintenance community-owned recreational spaces to improve both physical and mental well-being. Leverage green infrastructure solutions to mitigate the adverse impacts of climate change, like heat island effect, and improve local community health outcomes.



## Increase Connectivity

Use green investments to create greater physical continuity of walkable and multi-modal spaces, and to improve road safety for vulnerable road users. Develop and support wider internet access to address the digital divide, and better connect residents to employment and educational opportunities across the Greater Baltimore Area.

# Strategy + Goal Alignment

| | Strategy | Goal(s) |
|---|---|---|
| Physical Strategies | Complete Green Streets |  |
| | Green Alleys |  |
| | Better Bus Stops |  |
| Programmatic Strategies | Digital Community Hubs |  |
| | SB7 In Demand |  |
| | Green Community-Based Care |  |
| | PEEPS |  |
| | Healthy Homes Weatherization |  |
| | Investment Without Displacement |  |

# Physical Strategy 1: Complete Green Streets

## Overview

Complete Green Streets allow for better environmental functionality as well as provide a safer and more attractive streetscape, which helps to encourage and support more pedestrian, bicycle, and multimodal activity overall. Many of the major thoroughfares within the SB7 do not encourage, and in several locations, hinder pedestrian activity. Additionally, there is very little integration of green investments along these roadways. The increase in the frequency of extreme weather events due to climate change poses many challenges to a safe and efficient multimodal transportation network.

Lack of stormwater control within the right-of-way can create additional barriers for carless households when flooding impedes an individual's ability to safely use a sidewalk or wait comfortably for a bus at a bus stop. Integrating green infrastructure along the right of way can increase bicycle and pedestrian comfort by creating both a protective barrier and provide sufficient drainage to ensure puddling of stormwater does not impede mobility or accessibility. Complete Green Streets incorporate the principles of green infrastructure (e.g., green stormwater management), tree plantings, and pedestrian-oriented design to create more welcoming and comfortable streets. Accessibility of sidewalks and crosswalks should be a component of a Complete Green Street, as well as bike lanes, dedicated bus lanes, adequate lighting, and stormwater bump outs. In the wake of the COVID-19 pandemic, designing for distance is another important component to support the layout of Complete Green Streets too.

An area of concern specific to the SB7 is the perception of crime, which influences the impression from people outside these neighborhoods that crime is worse in this area. Complete Green Streets help improve the aesthetic of the area and has been documented to have a potential impact on actual crime rates.

## Case Study + Precedent

**21st Street, City of Paso Robles California** – The City of Paso Robles received the 2014 Green Innovation Award for their design and implementation of a Complete Green Street. Both historic run-off and rapid development of the area contributed to frequent and severe flooding. As a result, 21st street was poorly suited to accommodate pedestrians and cyclists. To address this impediment, the City of Paso Robles commissioned the creation of a green stormwater median equipped to manage a high volume and velocity of water. The installation of the green median provided additional traffic calming elements by incorporating stormwater bump outs, and native plantings of shrubs and trees along the right of way to support both pedestrian and bicycle activity. A notable feature of the project is that they used locally sourced and recycled materials which helped tie this investment directly to the local economy [1].

A literature review on the relationship between urban vegetation and crime demonstrated that the incidences of minor crimes, violent crime, property crime were all reported to be significantly lower in more highly vegetated areas [2].

## Recommended Partnerships

Key partners for Complete Green Streets along city-owned right of ways include the Baltimore City Department of Transportation and the Baltimore City Department of Public Works. The Maryland Transit Administration, the Maryland State Highway Administration and particularly the Active Transportation Team at Maryland Department of Transportation represent critical partners to help deploy a Complete Green Street project along a state-owned road such as West Patapsco Avenue, which the project team identified as an important connector that links together the activity hubs or clusters of community assets identified in Chapter 3.

The Active Transportation Team administers several grants and special fund programs under the Bike and Walk Funding Programs, which are aligned with the innovative proposal to combine green infrastructure and, more specifically, green stormwater management to improve connectivity and street conditions for biking and walking. One such grant is the Transportation Alternatives Program, which prioritizes projects that improve the environmental aspects of the multimodal transportation network [3].

Advocacy organizations, such as BikeMore and the Baltimore Complete Streets Coalition, are another critical set of partnerships that can help with community organization and support infrastructure advocacy.

# Physical Strategy 2: Green Alleys

## Overview

An article published in January 2020 reported that the City of Baltimore's Department of Public Works receives tens of thousands of dirty-alley cleaning requests every year, with 700 complaints received between January 1 and January 13, 2020 [4]. Many alleys throughout the SB7 are underutilized. The absence of landscaping and complementary programming has resulted in vacant and underused alleyways that may increase the perception of neglect.

However, derelict alleyways have the potential to become environmental and community serving assets through their transformation into green alleyways that also include elements of green stormwater BMP. In addition to managing runoff volumes and improving the perception of comfort and safety, the introduction of green alleys can provide low-speed connections for pedestrians and bicyclists, accommodate existing parking, and can enhance a sense of community cohesion.

## Case Study + Precedent

**Green Streets and Blue Alleys, Baltimore City** – A model project exists in Baltimore City already. In 2012, the Baltimore City Department of Public Works and the Baltimore DOT partnered with the Center of Watershed Protection, Biohabitats Inc., and the Blue Water Baltimore Watershed Association to pilot green streets and blue alleys for stormwater management at several locations within Butchers Hill and Patterson Park. The initiative retrofitted several streets and alleys, installing street bump outs with bioretention facilities, permeable pavement alleyways, rain barrels, downspout disconnection, and other green infrastructure techniques. The National Fish and Wildlife Foundation provided a $600,000 Chesapeake Bay Innovative Nutrient and Sediment Reduction grant and the City Department of Transportation and Public Works provided an additional $300,000 [5].


**Figure 5-1.** Example of a green alley. Retrofitted alleyways provide an opportunity to revive a residential area and integrate it more meaningfully as a community-building asset. Important features include low impact pavement, human-scale lighting, rain gardens on the periphery and shared street design to accommodate residential vehicles, pedestrians, and cyclists as well as service and utility vehicles [6].

## Phasing Green Alleys

There is currently a legal foundation to support this strategy. Subtitle 8A in Article 26 of the Baltimore City Code established the Gating and Greening Alleys Ordinance, permitting residents to submit requests for alley greening to the Baltimore City Department of Transportation. The ordinance states that requests may be granted provided that the alley is no longer needed for through pedestrian or vehicular traffic and if the greening advances public health or safety [7].

Because the proposal emphasizes the role of a low-speed connection for pedestrians and cyclists, the first stipulation in the ordinance will require an exemption. However, this provides an opportunity to initiate a non-permanent demonstration project to evaluate configurations that can accommodate residential parking and routes for through pedestrian/cyclist traffic within these green alleys.

The Green Alleys strategy can be implemented at an intentionally provisional and small scale to start to secure community buy-in. This strategy is ultimately community-led. Tactical urbanism and greening in the right-of-way are currently supported by the Baltimore City Department of Transportation through the Community Based Programs Application [8]. These projects typically last one day but community organizers can extend the duration of the demonstration project by signing a Memorandum of Understanding. Although there are no associated application review fees included in the Community Based Programs Application, fees may be incurred during the installation.

To consolidate and coordinate resources, community organizers should align with planned community events such as block parties taking place in the alley, and partner with those events to serve as a kick-off event for demonstration projects.

A potential location for piloting the Green Alley demonstration projects is the Lakeland neighborhood. This neighborhood is predominantly residential and has few vacant or abandoned properties, meeting property and owner consent requirements stipulated in the ordinance and making implementation more feasible [9].

Demonstration projects also have the added benefit of being conditional, therefore, not requiring extensive investment in maintenance. As with the other physical strategies, maintenance during the tactical urbanism phases can be coordinated through the steward organization and staffed by a combination of demonstration project volunteers, as well as residents participating in the SB7 In-Demand Green Economy Pilot Track training as landscape contractors or technicians.

The SB7 In-Demand Green Economy Pilot Track is explained later in this chapter. As part of its stewardship plan, the steward organization should budget for demonstration project maintenance and staffing to coincide with the length of the project (i.e., a month or less).

## Recommended Partnerships

Many of the same city partnerships recommended for the Complete Green Streets initiative can also align with this initiative. Additionally, because Blue Water Baltimore Watershed Association was a key partner in the Green Streets and Blue Alleys initiative and the National Fish and Wildlife Foundation was a major funder for that project, they are both logical partners for furthering green alleyways for stormwater management in the SB7.

An important feature of the project was monitoring the retrofits to assess performance of different treatments' ability to meet the municipal separate storm sewer system (MS4) permit requirements. The project team included maintenance requirements in their monitoring efforts. This helped inform the cost-benefit analysis and decision making about which types of retrofits would maximize run-off reduction while minimizing the cost of long-term maintenance. Furthermore, because of the similarities between the SB7 Green Alleys proposal with the Green Streets and Blue Alleys project, this proposal can leverage many of the Baltimore-specific lessons learned that would streamline implementation.

# Physical Strategy 3: Better Bus Stops

## Overview

Transit equity starts with bus stops because many minorities and individuals with disabilities are disproportionately bus riders. Often the wait-time experience is overlooked and yet this makes up on average 31 percent of the commute time for bus trips [10]. Improving the bus stop with bus shelter treatments also affords public health benefits by protecting riders from heat.

Research has shown that some degree of enclosure can also lower the perceived waiting time for riders, enhancing their quality of their ridership experience. Many bus stops in the SB7 area amount to little more than a pole in the ground. Those that have some sort of seating or shelter are often in a state of disrepair. Many of these stops lack sufficient sidewalk infrastructure to facilitate safe travel to and from the stop.

An analysis of transportation patterns in the SB7 showed that although public transportation made up approximately one-fifth of the mode share, 89 percent of transit users in the SB7 were bus riders. This suggests that bus riders are a significant component of road users in the SB7, therefore warranting improvements at existing bus shelters. Improving the experience waiting at a bus stop with bus shelter treatments affords numerous benefits to residents, including rider safety and public health.

## Case Studies + Precedents

**Mi Jardin, Austin, Texas** – These bus shelters are designed as rainwater catchments to water native plants nestled around the shelters. In addition to respite from the rain and Texas sun, the garden can reduce stress of riders by providing a more calming experience as well as beautifying the neighborhood [11].

**Painted Tree Stumps, Fayetteville, Arkansas** – The Office of Sustainability at the University of Arkansas placed hand-painted hardwood tree stumps at bus stops as a tactical seating solution. These seats can be turned into firewood when no longer needed as seating, ensuring a zero-waste operation [12].

**La Hacienda Bus Stop, Nashville, Tennessee** – Tactical urbanist group Turbo Nashville transformed a 'sign on a telephone pole' bus stop and added seating, wayfinding information and greenery donated by a local landscaping company through their Modular Bus Stop program [13].

By employing green stormwater BMP in the implementation, this type of intervention can increase safety and improve the passenger waiting experience. This can take several forms including, but not limited to:

**Bioretention Cells** integrated into transit bulbs at either end of the boarding platform. Improves the buffer between pedestrians and traffic while also improving drainage, and reducing the occurrence of accessibility-limiting water pooling.

**Midblock Crosswalk Islands** with street trees. Reduces crossing distances for pedestrians, absorbs stormwater runoff, and provides shade.

**Bus Shelters** with green roofs. Reduces heat felt in the shelter during the summer and reduces stormwater runoff.

Incorporating stormwater facilities at transit stops also introduces new opportunities for mutual benefits and inter-agency collaboration, unlocking new project funding sources and leveraging complementary resources. Near-term action is recommended on the Waterview Avenue & Sidney Avenue northbound bus stop, which currently has no sidewalk, shelter, or seating available (Figure 5-2).


**Figure 5-2.** Aerial view of Waterview Avenue and the northbound bus stop in relation to its pair bus stop adjacent to Sidney Avenue.


**Figure 5-3.** Street view of the Waterview Avenue northbound bus stop. Inclement weather and nighttime conditions create further challenges for riders using this bus top. Lack of adequate lighting reduces the visibility of riders who cross the street to access this bus stop. The curb where the bus stop is located has no curb cuts, which poses challenges to access for riders who rely on mobility aids or those with limited mobility.

This bus stop is marked by the presence of a single bus-stop sign mounted on a pole (Figure 5-3). The closest sidewalk on the northbound side of Waterview Avenue starts about 276 ft north of the stop. A bus shelter could improve wayfinding for riders and installing a mid-block crosswalk will make crossing this street safer if riders need to access the pair bus stop. The bus stop pair is 175 ft away and yet there is no safe crossing, which makes return trips less convenient.

Crossing this street is precarious because the line of trees alongside the northbound side and the angle of the road obstructs the line of sight for riders looking to move between the pair stops. This site was selected because of its proximity to Kloman St. If Kloman gets redeveloped as an extension of the Middle Branch Trail, a better bus stop could act as a point of local access for those using the bus system.

# Programmatic Strategy 1: Digital Community Hubs

## Overview

Residents have stressed the importance of neighborhood-level community centers. However, to address resource constraints and provide broader coverage, the Baltimore Department of Recreation and Parks is moving to area-level community centers. To meet the need for neighborhood-level access to resources and digital connectivity, we propose the deployment of refurbished buses as Digital Community Hubs (DCHs). DCHs will bring necessary resources and programming directly to neighborhoods. The Hubs will function as Wi-Fi hotspots and provide high speed internet to many areas that lack the infrastructure to receive it in homes.

The DCHs will also serve as community public spaces that connect residents to other programming detailed in this report. Given their mobility, each DCH will be able to serve multiple neighborhoods in each week, which mitigates the burden of travel on residents seeking services, who may be elderly, unemployed, or too young to have the means, ability, or time to travel. DCHs could be located on vacant lots acquired through the land acquisition program discussed later in this report.

By activating vacant lots in the neighborhood, unused and derelict spaces will be turned into productive and beneficial ones. Once the DCH program experiences success and reinvestment, the fleet of hubs can increase to eventually serve every neighborhood full-time.

## Case Studies + Precedents

**Wi-Fi-equipped school buses, Coachella Valley, California** – In this high-poverty, geographically large area, the school district faced a challenge of home connectivity for the devices that had been provided to its 19,500 students. They found a solution by outfitting school buses as mobile hotspots to be parked overnight at sites throughout the community so that students can connect to work on their assignments [14].

**Peaches & Greens, Detroit, Michigan** – Starting as a small operation providing produce from an old UPS truck to residents of a Central Detroit neighborhood, Peaches and Greens flourished into a successful and growing network of community-serving establishments. After a successful first year, it established a storefront location with the help of Central Detroit Christian (CDC), which spurred the creation of community gardens that sourced the store. The store and CDC joined forces with Project for Public Spaces (PPS) to create a plan that would expand the produce stand to a full grocery store with a health-focused community space. The Peaches and Greens produce stand sparked community programs such as a community gardens on vacant lots, exercise areas, educational programs, and the annual Harvest Festival, establishing the area around the store as a much-needed community center [15].

# Programmatic Strategy 2: SB7 In Demand

## Overview

Good jobs are important for strong communities. This strategy will create an upskilling and reskilling program called SB7 In Demand, which exclusively serves residents of the SB7 and will serve two main purposes. The first purpose of this program will be to help eligible adult residents develop in-demand skills that will enable them to be more competitive and diversify their skills in the changing job market.

The inventory and analysis found that low-skilled and low-wage workers made up 56.6 percent of the labor force in the SB7 neighborhoods. Furthermore, the percentage of residents who held a bachelor's degree was particularly low at 13 percent, compared to the adjacent counties of Anne Arundel and Baltimore County. The lack of a college degree or higher may bar many adult residents from accessing higher-wage job opportunities outside the retail and service industry. However, for many adults, returning to school to pursue a bachelor's degree may not always be realistic either because it is unaffordable or because they have existing care-giving responsibilities.

The second purpose of this program will be to form partnerships for local hiring with future businesses in Port Covington. Dubbed "Cyber Town USA," Port Covington will become an important employment hub that presents an opportunity to tap into both local and first source hiring for higher wage jobs [16].

Currently, the City only has a Local Hiring Law and not a First Source policy. One of the stipulations in the 2013 City of Baltimore's local hiring ordinance (Bill 12-0159 "Finance and Procurement - Local Hiring") mandates that Baltimore residents fill at least 51% of all new jobs required to complete the contract or project [17].

This ordinance applies to employers who benefit from City contracts over $300,000 and City-subsidized projects receiving over $5,000,000 in assistance. Many of these opportunities are likely related to construction and maintenance but may include others, such as those requiring digital skills.

Unlike Local Hiring policies, First Source policies develop the specific mechanisms that employers need to follow in order to maximize local hiring, and these are usually facilitated through a neighborhood-based referral program [18]. Research has found that First Source policies are more successful in meeting economic development equity goals since they address the process side of the equation and therefore have more tools for oversight and enforcement [19].

In the absence of First Source policies, the SB7 In Demand borrows concepts from other First Source Hiring programs by creating a comprehensive in-house program that acts as an employment intermediary on a neighborhood-scale focusing on creating a pipeline of qualified workers from the SB7.

This program seeks to complement the efforts done by the Mayor's Office of Economic Development "Skilling Up in A Remote World" by creating a structure specifically for the South Baltimore neighborhoods. It will focus on how to get adult residents ready for the jobs that fall under the Local Hiring Law as well as preparing them for good paying jobs that do not fall under this ordinance. Example activities include one-on-one career counseling sessions, job case management, mock interviews, resume writing workshops, and designated drop-in office hours for application reviews.

This program will be deployed as a component of the Digital Community Hub (DCH) program to ensure travel time is not a barrier to participation since most DCHs will be parked to be within walking distance of neighborhood residences. Additionally, a major barrier of these self-learning virtual programs is the lack of reliable internet access at home.

DCHs are Wi-Fi enabled and will be parked in the different neighborhoods allowing residents to connect to the internet from their homes. This program will focus on specific job sectors and start small to allow for an outcomes-based approach to make it eligible for innovative financing mechanisms, such as impact investments from the private sector.

## Recommended Partnerships

To begin this program, pilots should focus upskilling and reskilling efforts around both IT sector jobs and green jobs. As such, the recommended first year program should offer a Digital Jobs Track and a Green Jobs Track.

### Partnerships for the Digital Jobs Track Pilot

Partners for the Digital Jobs Track pilot include the Mayor's Office for Employment Development (MOED), and specifically the initiative on "Skilling Up in a Remote World." This initiative provides a landing page filled with resources that includes digital communications, free learning opportunities, free job readiness.

Using the resources provided by the MOED and *Google IT Professional Certificates,* this program will create a structure to help deliver the curriculum to residents in the SB7. IT support jobs are in demand, have a median starting salary of $54,760, and often provide flexibility with telework opportunities. Furthermore, digital upskilling certifications can accommodate busy lifestyles and be completed within 3-6 months.


**Figure 5-4.** Senator John Cornyn (R-TX) participating in a digital skills training and resume workshop at Goodwill Central Texas Affiliate. The partnership between Google and Goodwill Industries aims to help workers prepare and transition to the 21st economy [20].

The SB7 In Demand program adds the element of human support to make these resources more effective and coordinate all these services through neighborhood-level career case management. Partners that the program can leverage to support both community outreach and provide facilities space include the Enoch Pratt Free Library - Cherry Hill Branch and the Enoch Pratt Free Library - Brooklyn Branch.

For job placement support the program should leverage Goodwill Industries of the Chesapeake, Inc. This part of the programming would entail partnering with Goodwill Industries Tailored Staffing Solutions associates to host career assessments sessions at the DCHs.

### Green Jobs Track

Partners for the Green Jobs Track pilot include the Mayor's Office for Employment Development, Civic Works Center for Sustainable Careers, the Baltimore Wood Project - US Forest Service, Humanim, and Baltimore Recreation and Parks. Both Civic Works and the Baltimore Wood Project have done proven work in uplifting communities and creating jobs through sustainability projects.

The Baltimore Wood Project and Civic Works create jobs for those with barriers to employment like criminal records, which was cited as a major issue by the community. The partnership with Humanim would incentivize deconstruction projects for eligible vacant properties within these neighborhoods, creating job opportunities.

**Figure 5-5.** A participant in the Baltimore Urban Wood Project. In partnership with the US Forest Service, the non-profit Humanim helps connect locals to skilled work salvaging valuable wood from abandoned rowhomes [21].

## Case Studies + Precedents

**Digital Upskilling in Mississippi** – The Goodwill Industries of Mississippi partnered with Google's Foundation, Google.org, to launch the Goodwill Digital Career Accelerator. This program seeks to provide digital skills training to help members of the community prepare for the digital economy. The program is funded by a $10.3 million grant from Google's Foundation and supported by 1,000 Google volunteers. Program participants are equipped with industry-recognized credentials through a no cost certificate program, *Google IT Support Professionals,* and have access to a classroom setting to complete their training [22].

**Prince George's County Clean Water Partnership** – A Community Based Public Private Partnership (CBP3) was created with Prince George's County and Corvias, with the Clean Water Partnership as the connecting force, in order to retrofit an initial area of 2,000 acres of stormwater infrastructure with (cont.)

low impact development/green infrastructure BMPs. The first of its kind, this CBP3 project allows for transparency, quicker completion of projects, and opportunities for education and job creation in underserved communities with strategies such as local hiring and local small and minority-owned business subcontracting. A particular innovative feature of this program is increasing the number of qualified local landscaping firms through the Emerging Landscapers Program, which helps them expand their capability-building to successfully compete for work with the Clean Water Partnership [23]. Future economic and environmental development is facilitated by Corvias' targeted investments in underserved communities, including improving amenities such as public schools, green spaces, recreational facilities, ponds and wetlands, and community areas [24].

**Philadelphia Works 'Pay for Success'** - Philadelphia Works partnered with Comcast for the city's first 'pay for success' job training program. For this partnership, the non-profit Philadelphia Works fronts the cost (with funds obtained through grants) of specific job training for placement at Comcast. Eventually Comcast pays back the cost of training once the positions are filled with the appropriately trained employees.

The opportunity for job training is open to many, those with varying educational attainment, mid-career changers, and those who would not typically land in a position with Comcast. In this model, as money is paid back to the non-profit from the for-profit organization, a new pot of money is available for further job training or other projects [25].

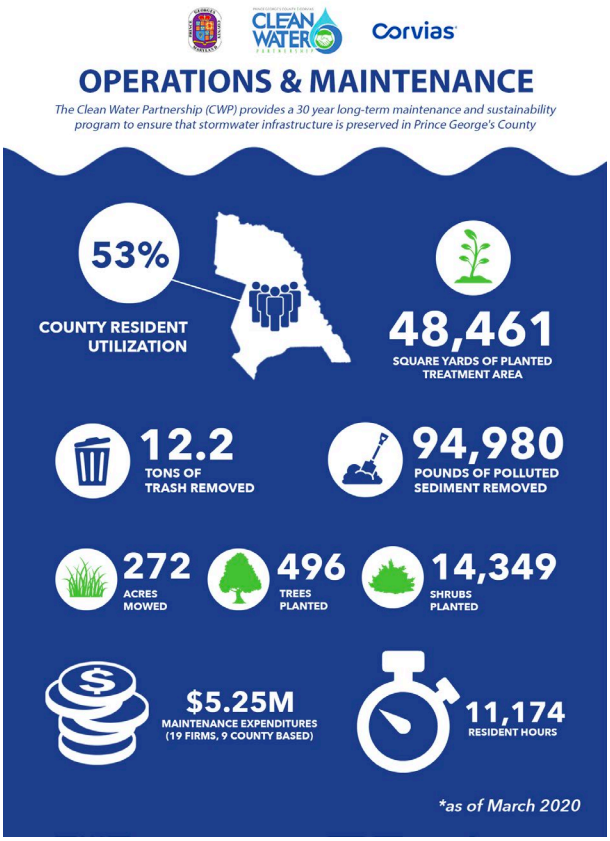



**Figure 5-6.** Infographic of the Clean Water Partnership's stormwater infrastructure metrics focused on long-term maintenance, sustainability, and economic development as of March 2020 [26].


**Figure 5-7.** Representatives from Prince George's County, the Clean Water Partnership, the Low Impact Development Center, and the University of Maryland break ground on the new stormwater basin in Suitland, Maryland [27].

# Programmatic Strategy 3: Green Community-Based Care

## Overview

Access to healthy food is vital to building strong communities. Community-based care models focus on delivering preventative care outside a medical setting and are a complement to the care offered in a hospital or doctor's office by leveraging patient education and addressing the social determinants of health [28], such as healthy food access. This program will increase access to healthier food options through two initiatives.

The first focuses on expanding the number of urban farms in the SB7 area to provide a greater volume of locally grown produce. An inventory of the area found that many residents live in areas that are considered food deserts or food swamps. Unlike food deserts, which characterize communities where there is a lack of healthy food, food swamps occur where the number of establishments selling fast food and junk food outnumber and are more accessible than healthy alternatives [29].

There are currently only two urban gardens in the SB7 neighborhoods, Filbert Street Community Garden and Cherry Hill Urban Community Garden. Adding more gardens to locations identified in Mt. Winans and other neighborhoods, will help further the goals of the Baltimore Food Policy Initiative; to increase access to healthy affordable food in Baltimore's Healthy Food Priority Areas, and the goals of the *Homegrown Baltimore Plan*; Grow Local, Buy Local, and Eat Local.

The second initiative connects existing and future green spaces, including urban gardens, with the coordinated care program at MedStar Harbor Hospital. The medical staff at MedStar would be able to write "prescriptions" to patients for green-based care, following one of two models. The first model prescribes exercise in the parks.

## Case Studies + Precedents

**Produce Prescription Program** – The Food Trust in Philadelphia runs Produce Prescription Programs connecting local health care partners with fresh food retailers around a common goal of increasing access to fresh produce. The "prescriptions" in this program take the form of vouchers that can be redeemed at participating corner stores, farmers' markets, and supermarkets for fresh produce [30].

**Produce Rx** – DC Greens ran the Produce Rx program allowing medical professionals to prescribe fresh produce to patients experiencing diet-related chronic illnesses with additional support for patients living in poverty. This program was run in partnership with DC Farmers' Markets. This model was proven to increase well-patient visits by 54 percent while 50 percent of the program's 120 annual participants decreased their body-mass index [31].

Encouraging the use of these spaces through medical channels not only provides physical and medical benefits to residents but also builds the sense of agency and ownership the community feels over their nearby public spaces.

The second model seeks to improve the health of pregnant women by prescribing fresh produce from local farmers markets. This is done to ensure better prenatal health for babies born to SB7 residents. Babies with low birth weights are at increased risk for a variety of developmental problems related to health, psychological adjustment, and intellectual functioning.

Through the creation of the *Produce Prescription Program,* the hospital can give out "prescriptions" to expectant mothers to be redeemed for produce at the urban farms/farmers' markets to meet their nutritional needs. These prescriptions will enhance the effectiveness of preventative healthcare by providing the residents structural channels to tap into the existing parks and can help integrate these green spaces more intentionally with MedStar Harbor Hospital's community programming.

Additionally, the initiative would work with the hospital to enroll a cohort of expectant mothers from the community and provide women's health practitioners and staff to organize and accompany them on during outings with their cohort to different gardens or parks to 'fill' their prescriptions. The project team recommends focusing on maternal care for two main reasons. First, despite being a high-income country, the US leads the rest of the industrialized world with maternal mortality and more specifically reports a maternal mortality rate that is four times higher for black women than for other groups [32]. Second, improving maternal health has a multiplier effect on the community. Research has shown that investing in maternal care is strongly associated with improved intergenerational health outcomes and economic outcomes [33]. This sentiment is perfectly articulated by the Mamatoto Village's motto, a community-based organization in Washington, D.C., "healthy mamas, health babies, healthy communities" [34].

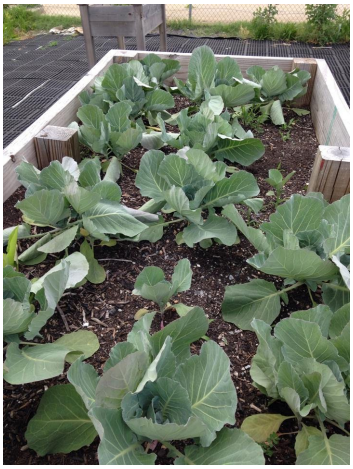


**Figure 5-8.**
Clockwise: Volunteers working on a beautification project in the Cherry Hill Community Garden, located in the Cherry Hill neighborhood. Fresh cruciferous vegetables grown on garden plots in the Cherry Hill Community Garden.

## Recommended Partnerships

**Creation/Expansion of Urban Farms** – The *Baltimore Sustainability Plan* and *Homegrown Baltimore Plan* outline the goals and processes for increasing urban agriculture in Baltimore. These plans provide resources on land acquisition, training programs, and financing. Following the strategies laid out in these plans necessitates partnerships with several city agencies.

The Department of Housing & Community Development is the administrator for Adopt-a-lot agreements and therefore a critical partner to help identify viable farm locations. The Department of Planning and the Baltimore Office of Sustainability are also involved in urban agriculture in Baltimore City and would provide essential support.

Furthermore, there are local non-profits working towards a common goal of sustainable urban farming that can provide invaluable knowledge, training, and distribution networks. Farm Alliance of Baltimore, Civic Works, and Eat Fresh Maryland are among the organizations that would help ensure the success of these new farms.

**Healthcare Partnership** – Recommended primary partners for this initiative are the MedStar Harbor Hospital as well as the Middle Branch Fitness and Wellness Center in Cherry Hill. The MedStar Harbor Hospital is a community anchor point and already has experience collaborating with preventative health and community outreach programs like the Safe Streets Initiative [35].

Furthermore, MedStar Harbor Hospital is no stranger to incorporating urban gardens into their public health programming. In 2014, they partnered with schools in the Cherry Hill neighborhood to create the Healthy Schools Healthy Families Initiative that exposed students and their families to the Cherry Hill Urban Garden as a model for sustainable living and taught skills related to food security [36].

Partnering with a hospital already engaged with providing holistic and wrap around services is critical for implementation since there are already institutionalized frameworks that can be leveraged. Since they are in the SB7, the hospital provides a unique opportunity to deploy neighborhood-level community-health interventions and ensure these programs are highly visible.

As the healthcare organization that operates in the area, they are the primary health care provider for many residents and can easily integrate and coordinate an expecting mothers' care program without requiring women to travel outside the community. Lastly, partnering with local food advocacy groups such as Food Justice Forum and the Baltimore Food Policy Initiative, would ensure connections with fresh food vendors to facilitate the distribution of this produce.

# Programmatic Strategy 4: Patapsco Environmental Education Program & Symposium (PEEPS)

## Overview

Benjamin Franklin High School at Masonville Cove has an Environmental, Agriculture, & Natural Resources - Agriculture science education CTE program that works to prepare students for careers in this field. Environmental education is a valuable tool to offer the community as it can help encourage more sustainable lifestyles and can expose children to possible career paths they did not know existed.

Development of greater environmental understanding can be accomplished in the SB7 through the creation of an educational program, tentatively named PEEPS. This strategy would capitalize on the abundant and underutilized resources of the Middle Branch Waterfront as well as the environmental education infrastructure already in place at Benjamin Franklin High School at Masonville Cove, to create a community-wide educational program for youth.

Possible topics of education in this program could include climate change and its impacts, urban food production, pollution, disaster preparedness, urban greening, watershed ecosystems, and stormwater management. The program would create an educational component for several of this plan's recommendations and connect student-led research to these outcomes.

The program should have a curriculum that aims to improve digital literacy, using GIS technologies. It should instruct students how to design research and allow students to conduct hands-on environmental fieldwork. Senior students would have the opportunity to present their research and projects to the community and local policy makers at a yearly symposium. This programmatic strategy could also be connected to the physical strategy of Better Bus Stops recommended in this plan. A potential avenue for research, and later implementation, exists in the idea of constructing bee sanctuaries on bus shelters, using native plantings for pollination, temperature regulation and to support the overall greening of these transportation facilities (Figure 5-9).


**Figure 5-9.** Green bus shelters. The Dutch City of Utrecht deployed bee sanctuaries on 315 bus stops to help encourage pollination, help regulate temperatures, reduce PM2.5 content in the air near the bus stops, and capture fine dust and store rainwater at their bus shelter locations. The City of Utrecht selected a low maintenance family of grass and wildflowers called sedum plants, which required very little water [37].

Curriculum could be developed for students to study the functions of rain gardens utilizing GIS technologies and research methods to determine what plant species to introduce and help with the monitoring of the health of plants installed in the bus stops' rain gardens. Furthermore, students could take part in the designing, obtaining of sustainably sourced materials, and construction of bus stop seating.

Another possible community-focused project that could be folded into this program's curriculum is the creation of a wayfinding project that would provide community educational opportunities through the creation of signage related to the Patapsco and other environmental topics. Students could help design, write, locate, and install the educational signs.

PEEPS students can study and take part in the implementation and maintenance of a wide array of projects that will serve their own community. Opportunities may exist, especially as working partnerships form, for participating students to gain internship or apprentice positions with the organizations that have partnered with PEEPS. The PEEPS program would focus student efforts on community-serving, environmentally based issues, and allow them to take part in the resolution of these issues.

As with any project aimed at serving at the community level, input from citizens is crucial in the development process to determine how best to design and implement the program.

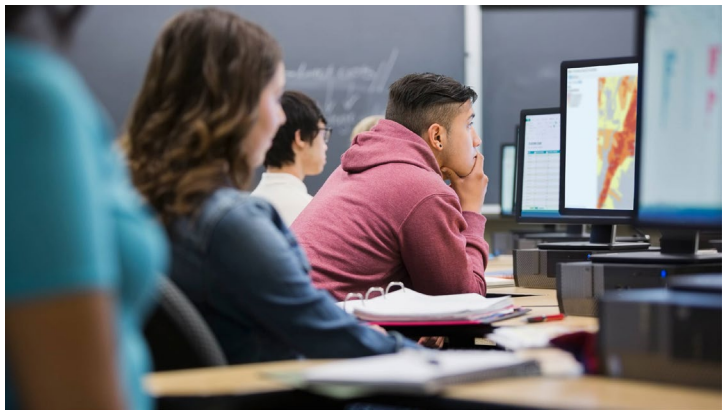


**Figure 5-10.** Students combining GIS with project-based learning. K-12 investment in GIS skills can make communities living classrooms, spur community stewardship, storytelling, and engagement, and help students create transferable knowledge for future paid work. [38].

## Recommended Partnerships

A possible partnership may exist with ESRI, the world's largest provider of GIS software, which has a program that supplies schools with ArcGIS supplies free of cost. There are free ArcGIS instructional materials from ESRI that teachers can master quickly to begin integrating GIS into their classrooms. Free lessons with wide ranges of topics are available for teachers and students.

Free ArcGIS software is available for K-12 schools from ESRI. Another partnership, which is already in place and could possibly be expanded upon, exists with the University of Maryland Baltimore County and Benjamin Franklin High School. This partnership has involved UMBC students helping teach GIS skills to high schoolers and integrating this knowledge into a variety of their CTE projects.

The Chesapeake Conservancy, as well as the National Aquarium, are potential partners as they both have resources for educational programming. The *Brooklyn/Baybrook Community Action Plan* for Garrett Park recommends establishing an environmental education program hub in Garrett Park. Garrett Park's plans for demonstration gardens, native plantings, urban agriculture, and green infrastructure installation and maintenance can be woven into the fabric of PEEPS [39]. Finally, the Baltimore City Public School System is a logical partner for the creation and implementation of this program.

# Programmatic Strategy 5: Healthy Homes Weatherization Outreach Campaign

## Overview

Many of the homes in the neighborhood are older and were built before current energy efficiency building standards, which has a disproportionate impact on low-income households who pay higher utility bills and spend significantly more on home maintenance and repair costs. Home weatherization benefits homeowners and renters by conserving energy and water, lowering utility bills, reducing maintenance costs, and improving health and safety.

The City of Baltimore already has a Weatherization Assistance Program for low-income households. The project team recommends implementing an outreach campaign to generate community awareness of the program paired with in-person application assistance located at the Digital Community Hubs (DCHs).

The project team also proposes that the City create a pilot weatherization program specifically for public housing properties, which are some of the least resilient structures facing impacts of climate change and most in need of green investment upgrades.

## Recommended Partnerships

This programmatic recommendation is an amplification of an existing program run through the Department of Housing & Community Development. Additional partnerships could be sought in the local business communities with HVAC companies, electricians, and green roofing companies such as Furbish in the Brooklyn neighborhood.

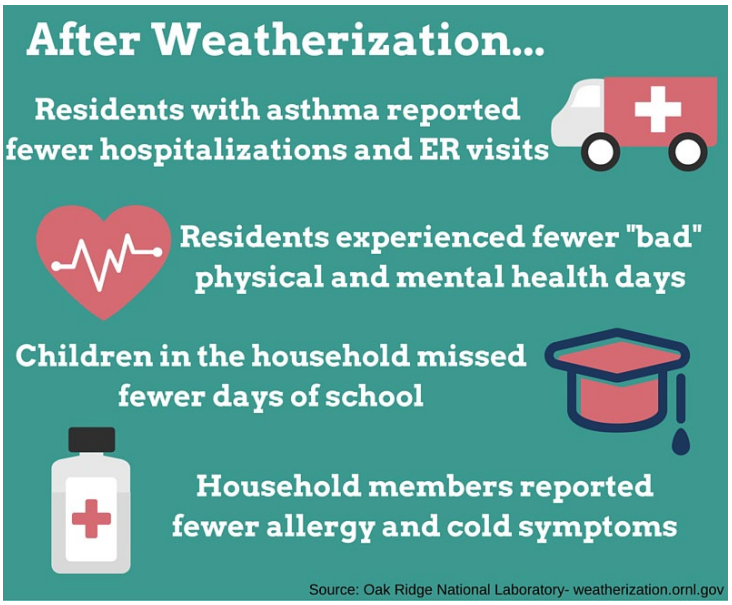



**Figure 5-11.** Health benefits associated with home weatherization projects range from improved respiratory health, improved mental well-being and cardiovascular health, and reduced hospital admissions from asthma complications. [39].

# Programmatic Strategy 6: Investment Without Displacement

## Overview

Investment Without Displacement is a proactive affordable housing program. The Middle Branch Waterfront investment will likely drive-up property values and rental costs and with that comes the risk of displacement. To ensure the long-term affordability, a proactive strategy will help to ensure that the existing communities are the ultimate beneficiaries of the future investment along the waterfront. A multi-faceted strategy that weaves together several key issues ensures that the approach is comprehensive and addresses root causes of unaffordable housing and community displacement.

- There is a high rate of vacant properties in the area, including underutilized vacant lots that have been demolished but are currently serving no community function, as well as a significant number of vacant housing units that need rehabilitation.
- There is a strong need for mixed-income affordable housing that can be guaranteed to stay affordable as the neighborhood benefits from the major investment coming to the waterfront.

To achieve investment without displacement, there are several opportunities that can be leveraged by the community that already exist within the SB7 and the City of Baltimore:

- The Community Land Trust model is a proven strategy that allows communities to take ownership of their neighborhood and ensures permanent affordability for both homeowners and renters. South Baltimore already has a Community Land Trust (CLT) that is currently working in Brooklyn, Curtis Bay, and Cherry Hill. The Harbor West CLT operates in Westport, Mt. Winans, Lakeland, and St. Paul. They have the potential to be expanded with adequate funding and support.
- The City of Baltimore recently established an Affordable Housing Trust Fund, which has funds available for existing CLTs. Prioritizing funding and assistance with the acquisition of these vacant properties with the goal of converting them into affordable housing units should happen as soon as possible

## Case Study + Precedent

**Power in Dirt, Baltimore, Maryland** – This Baltimore-based program specifically targets longer-term vacant lots with little developmental opportunity and allowed communities to 'adopt' vacant lots in their neighborhood by streamlining the administrative process through near term alternative uses. These lots saw many uses from pocket parks to community gardens. Furthermore, the program has been successful in combatting neglect, reporting a 35 percent reduction in service requests to clean up trash [40].

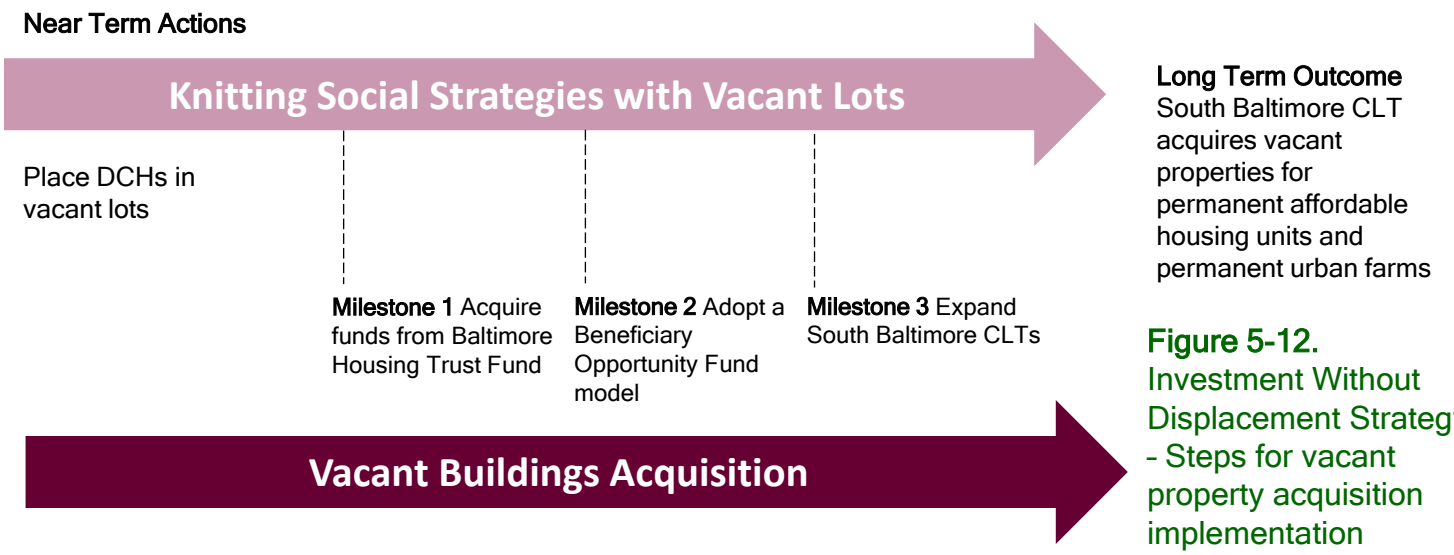



**Figure 5-12.** Investment Without Displacement Strategy - Steps for vacant property acquisition implementation

before future waterfront development makes them unattainable.

## Phasing

The easiest targets in the short-term will likely be vacant buildings that can be quickly renovated and made available to tenants. For vacant lots, the community should adopt a parallel long-term strategy that incorporates temporary alternative community uses for the land until it is eventually acquired by the trust and either made into a permanent fixture or converted to housing, depending on the desires of the community. One temporary use for vacant land would be for DCHs.

These mobile hubs could be easily installed in the near term and eventually be transferred to a more permanent location once the South Baltimore and Harbor West Land Trusts acquire enough funding for the land. Additionally, there are several other lots where a beneficial temporary use could include expanded outdoor seating for adjacent restaurants and bodegas. This would be a resourceful use of space in the short term and will help small businesses who have been struggling during the COVID-19 pandemic with capacity limitations in their existing space.

In the long-term, the ultimate use of converted vacant lots should be determined on a case-by-case basis. Vacant interim programming that has been embraced by the community and continues to benefit the community can be maintained as a permanent fixture owned by the land trust to protect it and ensure its viability. However, the end goal for most vacant lots will be the construction of new affordable housing units under the CLT model.

The project team recommends that the land trusts ultimately utilize a beneficiary opportunity model, as discussed in Chapter 6, to create a source of income in perpetuity and help with long-term maintenance costs. This will help ensure the long-term sustainability of the CLT model and allow them to provide ongoing infrastructure upgrades and maintain a quality stock of resilient housing units long into the future. Figure 5-12 illustrates the different steps of vacant property acquisition strategy that supports this initiative.

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# Chapter Six | Implementation

## Overview

The implementation plan describes how the recommendations laid out in the conceptual plan and the strategies and programs could be phased and carried through by describing the different implementation tools. The implementation tools presented in this chapter include both those that the City of Baltimore already has at its disposal as well as new policy adoptions recommended to administer the plan.

This chapter also contains descriptions of recommended tasks involved with operationalizing the plan and organizes implementation actions and policies by the different strategies. To help guide resource alignment, the chapter includes several matrices to demonstrate how to apply the different tools. There are four matrices: a tool matrix, a strategic partnership matrix, a funding matrix, and a financing matrix.

The implementation is supported by a set of physical strategies initiated through a series of tactical urbanism projects and programmatic strategies referenced in the Chapter 5, which are designed to act as anti-displacement mechanisms for the existing community to activate. To support both the near-term implementation of the plan and the longevity of the recommendations presented, the project team has proposed specific funding sources for the stewards of the plan to target, as well as has developed a funding and financing roadmap to ensure these interventions are sustained well into the future.

The sections of this chapter include:

1. Tools to Support Implementation
2. Tools Matrix
3. Strategic Partnerships Matrix
4. Funding + Financing
5. Funding + Financing Matrix
6. Recommended Actions

# Tools to Support Implementation

## Business-Attraction Campaign (BAC)

A business-attraction marketing campaign is a tool commonly used for commercial district revitalization, which can help expand the number of businesses that grow good neighborhood jobs. The business-attraction campaign should focus on job-producing businesses that align with community goals. The business-attraction campaign should include outputs from a neighborhood-level worker-needs-and-barriers assessment to identify and create solutions to remove obstacles to labor participation [1].

## Communications + Engagement Plan (CEP)

Establishing a public outreach process is a critical implementation component to garner community support and explain the purpose and motivations for the projects that fall under the tactical urbanism phase. The major tasks under partnerships and outreach involve creating a communications plan that is integrated with both an internal and public-facing project tracking system to create high project visibility and engage the community and other stakeholders through a variety of channels. The communication plan plays two major roles. The first is to craft key messages to gain community and other stakeholder support and to tailor them to specific audiences to ensure broad and inclusive engagement.

The second role is to inform stakeholders of upcoming programming and/or installations and create a feedback channel. The major tasks included with creating a communications plan are:

- Organize stakeholder information and communication preferences
- Outline the main communications methods and the different channels and align them to each to the appropriate stakeholders
- Develop key messages for each project and each type of stakeholder
- Establish communication goals to monitor the success of stakeholder engagement

All communication collateral tied to the demonstration and pilot sites (see Iterative Project Delivery tool) should include the following information and components:

- Project duration
- Description of the needs or problem the project will address
- Fact sheet detailing the materials used and their function
- Wayfinding system to help navigate users
- Comprehensive evaluation system
- Tools to capture community feedback

The subsequent sections include a strategic partnerships matrix that organizes how the different strategic partnerships listed in earlier chapters align with the strategies presented in Chapter 5.

To help manage these partnerships the steward should develop and manage a database of secured partnerships which specifies their roles and the extent of their involvement. The demonstration projects and pilots will initially depend on volunteers, and therefore, establishing a volunteer program is another major task.

## Capital Improvement Program (CIP)

The CIP is a prioritization mechanism that the City uses to plan for and fund major future infrastructure projects. Each year, the Planning Commission assesses and approves permanent infrastructure improvements to include in a new six-year CIP. Eligible projects are evaluated by their ability to enhance public health and safety, to incorporate additional funding sources, the ability for the improvement projects to reduce operating expenses, their alignment with the City's Comprehensive Master Plan, Capital and Sustainability Plan, the ability to improve equity, as well as their ability to leverage and promote public-private partnerships (P3s). Using the CIP as a tool would allow for the formal adoption of several of the physical improvements presented in the Chapters 4 and 5 in the Capital Budget.

## Adopt a Dig Once Policy (DOP)

A Dig Once Policy serves a dual purpose by helping accelerate both the deployment of technology to support last-mile broadband connectivity to end-users in the residential areas of the Middle Branch, as well as implementing other capital improvement projects and green investments along the public right-of-way in a cost-effective manner.

An ordinance could strengthen and complement existing coordination practices to extend participation to third-party utility contractors and guarantee cooperation in a systematic-way. The City of San Francisco amended their municipal code to facilitate coordination and communication with third-party utility contractors by integrating an Open Trench Notification procedure as part of the application review process for encroachment permits [3].

A Dig Once Policy can also be extended to include the practice of installing green infrastructure on public rights-of-way that are already excavated for other projects by building in a green infrastructure feasibility step to institutionalize integration in the capital planning process [4].

## Adopt a First Source Hiring Policy (FSH)

As mentioned in Chapter 5, a First Source Hiring Policy could help strengthen the existing Local Hiring law. A First Source Hiring policy creates a system to support residential hiring by requiring employers to go through approved and pre-defined referral systems and community-based recruitment centers.

This type of policy focuses on hiring practices and allows local governments to designate specific target populations that may face some disadvantage or structural barriers to gainful employment (e.g., low-income communities) and are more effective at improving equity since they are aligned with measurable outcomes, such as poverty reduction [5].

## Iterative Project Delivery (IPD)

A previous chapter introduced concepts such as Green Corridors that required extensive capital investment achievable over a longer period. To support this long-term vision, the implementation plan adopts an iterative project delivery model approach that prioritizes a pragmatic "short term action to support long term change" [6].

An iterative project delivery model focuses on breaking ground with smaller-scale, quick-build prototypes that can be iterated upon and show value to the community early in the process.

Although iterative project delivery is typically applied to capital projects, this model also supports the programmatic strategies using pilots and the integration of robust data tracking to support decision-making. At the core of this implementation plan is deploying pilots and developing outcomes to help document successes and capture lessons learned.

The iterative project delivery model includes three phases that precede a permanent investment: the demonstration project phase, the pilot project phase, and the interim-design project phase. The following boxes include the descriptions of the different phases adapted from the *Tactical Urbanist's Guide to Materials and Design*. These phases illustrate the progression of project types and how they incrementally build upon each other [6].

### Phase 1 – Demonstration Projects

Demonstration Projects is the first phase that allows the community to experiment with different improvements. A demonstration project can highlight safety problems with the current built environment. Furthermore, it can explain how the community can benefit from different designs and interventions and can be completely resident-led.

The materials involved in a demonstration project are usually makeshift, which allows for a high level of design flexibility. The community can adjust the design and remove or add materials as they see fit. These materials are typically low-cost and easily procured and maintained.

Typically, demonstration projects should include metrics to help evaluate the project's performance and collect data to aid community advocacy efforts to lobby the City for more durable interventions. These are quick-build and very short term. Demonstration projects can last anywhere from one day to one month depending on the project objectives, location site and resources.

### Phase 2 – Pilot Projects

Pilot projects help scale demonstration projects by testing their effectiveness and requiring more formalized involvement by the City and other organizations. Materials involved in pilots are semi-durable to not only ensure that designs can still be easily adapted and reconfigured but also to serve a longer project duration.

Pilot projects typically last anywhere from one month to one year. These projects tend to be longer to allow for more robust evaluation that is only possible over a longer span of data collection efforts. Material costs are relatively low but total project costs usually span from low to moderate depending on how long the pilot is conducted.

**Phase 3 – Interim Design Projects**

Interim design expands upon a pilot by installing semi-permanent materials. Small changes in the design are still possible but the physical intervention is intended to remain in place until longer term capital upgrades are possible. At this stage in the delivery model, stewardship of the project is transferred to the City of Baltimore to oversee procurement of materials, design, installation, and maintenance.

## Adopt a Low Impact Development Ordinance (LIDO)

The adoption of a low impact development ordinance can help advance the goals of both the *Middle Branch Master Plan* and the City's *Sustainability Plan.* Such an ordinance can supplement the existing Sustainable Site Design and the Development Guidebook and can help expand the amount of green infrastructure on future private developments. Currently, the City's Subdivision Regulations' Sustainable Site Design provisions encourage developers to use low-impact construction materials [7]. A low impact development ordinance will elaborate on specific strategies and techniques for developers to integrate green stormwater and help the City dictate development outcomes related to green infrastructure more strategically. Depending on how its structured, low impact development practices can be coordinated through other planning processes such as the CIP by explicitly requiring low impact development practices for capital improvement projects [8]. Additionally, a low impact development ordinance can be structured to offset the maintenance costs related to green infrastructure.

The City of San Antonio, Texas' Low Impact Development and Natural Channel Design provides permitting credits and stormwater fee discounts to developers to encourage the use of permeable surfaces. Furthermore, to qualify for these credits the developers are required to manage at a minimum 60 percent of the predicted stormwater run-off that is generated by the future development [9].

## Performance Management System

A performance management system and plan can help evaluate the effectiveness of different tactical urbanism interventions and build the case for the more permanent capital investment or full-scale adoption of a programmatic strategy. Each demonstration and pilot should have corresponding outcomes or lag measures and lead measures. These measures should be project specific (e.g., what are the outcomes and lead measures needed to evaluate the success of an intervention?). Lag measures ultimately measure what the intervention is trying to improve (e.g., increase pedestrian safety by reducing near misses by 15 percent),

while lead metrics measure the changes needed to drive the success of lag measures (e.g., measuring the mode shift along the corridor of a tactical urbanism intervention site or measuring the reduction in driving speeds within that corridor) and therefore have a more frequent reporting cadence [10]. Each demonstration and pilot project should also establish the baseline metric to determine the exact starting point of each project.

## Use Pop-Up Retail (PUR)

This approach provisionally fills vacant spaces along commercial corridors with pop-up businesses [11]. Pop-up shops are short-term and temporary retail stores or restaurants. Pop-up retailers can stimulate the local economy. Pop-up shops are a low-cost solution to help activate empty storefronts that can help generate activity in a neighborhood, improve social capital, support placemaking and make street life more vibrant. In the long term, regular pop-up shop programming can ultimately attract permanent investment [12].

Furthermore, pop-up shops can support emerging and underrepresented entrepreneurs by reducing the barriers to entry through a low-risk business model. The startup costs for a pop-up store are about 80 percent less than those for a brick-and-mortar permanent store [13]. Pop-up retailers can serve as a method to reduce the barrier to entry because they eliminate or significantly decrease costs of entering long-term leases. However, current zoning laws may create regulatory restrictions.

Nevertheless, regulatory frameworks can be revised to incorporate the unique needs of the pop-up economy. In 2011, the City of Austin helped relax permitting burdens by introducing temporary Certificates of Occupancy through the development of a Pop-Up Retail Ordinance (§25-1-364) [14].

## Subdivision Regulations (SR)

Baltimore City's Subdivision Regulations include provisions for Sustainable Site Design that can be leveraged to guide the future development that occurs in the Middle Branch and ensure that it aligns with the goals of the Middle Branch Master Plan.

As referenced in earlier chapters, the Middle Branch neighborhoods are more vulnerable to extreme heat exposure due to the significant amount of impervious surface and a limited tree canopy. Some elements of Baltimore's Sustainable Site Design encourage developers to "minimize impervious ground cover and maintain natural water flows by minimizing erosion and encouraging stormwater infiltration" [15].

These provisions, among others, could help preserve the existing tree inventory and expand the urban tree canopy by encouraging future development to incorporate tree plantings and other landscaping as stormwater BMPs on redeveloped properties.

### Tactical Urbanism (TU)

Tactical urbanism is tool within the iterative delivery project model toolbox. This methodology lends itself to both demonstration projects and pilot projects. Materials are low cost and allow residents to test different urban designs before making long-term investments.

Most tactical projects deal with retrofitting streets and intersections and aim to make them more accommodating and safer for pedestrians and bikes. Tactical urbanism is also very action-oriented and circumvents the conventional planning process, which can be helpful if there is a need to quickly address and retrofit high-risk corridors, such as roads with crash hotspots [16].

## Implementation Tools Matrix

The implementation tools matrix visualizes recommendations regarding how to apply the implementation tools presented earlier in this chapter to the different programmatic and physical strategies detailed in Chapter 5.

The tools matrix is a table that lists the different programmatic and physical strategies on the right-hand side with the abbreviations of the different implementations along the top border. Alignment between an implementation tool and strategy is symbolized by an X in each respective cell.

## Strategic Partnerships Matrix

The strategic partnership matrix translates and consolidates the strategic partnership recommendations presented in Chapter 5 to help implement the different physical and programmatic strategies. The recommended strategic partnerships included in the matrix is not a comprehensive list but rather a starting point upon which to expand.

To improve the legibility of the strategic partner matrix, a list of abbreviations was developed for the different partner organizations and agencies, as well as for the programmatic and physical strategies..

### Table 6-1. Strategy Abbreviations

| Strategy Name | Abbreviation |
|---|---|
| Complete Green Streets | CGS |
| Green Alleys | GA |
| Better Bus Stops | BBS |
| Digital Community Hubs | DCH |
| SB7 In Demand | SB7ID |
| Green Community-Based Care | GCBC |
| PEEPS | PEEPS |
| Healthy Homes Weatherization | HHW |
| Investment Without Displacement | IWD |

# Table 6-2. Partner Abbreviations

| Organization/Agency | Acronym |
|---|---|
| Baltimore Food Policy Initiative | BFPI |
| Baltimore City Council | BCC |
| Baltimore City Department of Housing & Community Development | DHCD |
| Baltimore City Department of Planning | BCDP |
| Baltimore City Department of Public Works | BC-DPW |
| Baltimore City Department of Transportation | BC-DOT |
| Baltimore City Recreation and Parks | BCRP |
| Baltimore Complete Streets Coalition | BCSC |
| Baltimore Office of Sustainability | BOS |
| Baltimore Planning Commission | BPC |
| Benjamin Franklin High School | BFHS |
| BikeMore | BM |
| Blue Water Baltimore Watershed Association | BWBWA |
| Chesapeake Conservancy | CC |
| Civic Works Center for Sustainable Careers | CWC |
| Community Development Corporation | CDC |
| Eat Fresh Maryland | EFM |
| Enoch Pratt Free Library | EPFL |
| ESRI | ESRI |
| Farm Alliance of Baltimore | FAB |
| Food Justice Forum | FJF |
| Friends of Garrett Park | FGP |
| Goodwill Industries of the Chesapeake Bay | GICB |
| Google Foundation | GF |
| Humanim | HM |
| Local Businesses | LB |
| Maryland State Highway Administration | SHA |
| Maryland Transit Administration | MTA |
| Masonville Cove Environmental Center | MCEC |
| Mayor's Office of Employment Development | MOED |
| Mayor's Office of Minority + Women-Owned Business Development | MWOBD |
| MedStar Harbor Hospital | MSHH |
| National Aquarium | NA |
| University of Maryland Baltimore County | UMBC |
| US Forest Service | FS |

# Table 6-3. Implementation Tools Matrix

| | BAC | CEP | CIP | DOP | FSH | IPD | LIDO | BM | PUR | SR | TU |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Complete Green Streets | | X | X | X | | X | X | X | | X | X |
| Green Alleys | | X | X | X | | X | X | X | | X | X |
| Better Bus Stop | | X | X | X | | X | X | X | | | X |
| Digital Community Hubs | | X | X | X | | | | X | X | | X |
| SB7 In Demand | X | X | | | X | | | X | X | | |
| Green Community-Based Care | | | | | X | | | X | X | X | |
| PEEPS | | | | | | | | X | | | |
| Healthy Homes Weatherization | | X | | | | | | X | | X | |
| Investment Without Displacement | X | | | | | X | X | X | X | X | X |

# Table 6-4. Strategic Partnerships Matrix

| | CGS | GA | BBS | DCH | SB7ID | GCBC | PEEPS | HHW | IWD |
|---|---|---|---|---|---|---|---|---|---|
| BCC | | | | X | | | | | |
| MOED | | | | X | X | | | | X |
| MWOBD | | | | | X | | | | X |
| CDC | | | | X | X | X | X | X | X |
| BPC | | | | | | | | | |
| BC-DOT | X | X | X | | | | | | |
| DPW | X | X | X | | X | | | | |
| MTA | X | X | X | | | | | | |
| SHA | X | X | X | | | | | | |
| BM | X | X | | | | | | | |
| BCSC | X | X | X | | | | | | X |
| BWBWA | X | X | X | | | | X | | |
| GF | | | | | X | | X | | X |
| EPFL | | | | X | X | | X | | X |
| GICB | | | | | X | | | | X |
| CWC | | | | | X | | X | | X |
| FS | | | X | | X | | X | | X |
| HM | | | X | | X | | X | | |
| BCRP | | X | | | X | X | X | | X |
| DHCD | | | | | | | | X | X |
| BCDP | X | X | X | X | X | X | X | X | X |
| BOS | X | X | X | | X | X | X | X | X |
| FAB | | | | | | X | | | |
| EFM | | | | | | X | | | |
| MSHH | X | | | | | X | | X | |
| FJF | | | | | | X | | | |
| BFPI | | | | | | X | | | |
| Esri | | | | | | | X | | |
| BFHS | | | | | | | X | | |
| MCEC | | | | | | | X | | |
| UMBC | | | | | | | X | | |
| CC | | X | | | | | X | | |
| NA | | X | | | | | X | | |
| FGP | | | | | | X | X | | X |
| LB | X | | | X | X | X | | | X |

# Funding + Financing Tools

## Overview

The following sections describe the different tools available to fund and finance the recommendations in this plan. This section is divided by funding and financing instruments related to social investments (i.e., programmatic strategies) and funding and financing instruments related to permanent green investments (i.e., physical strategies).

As mentioned earlier, permanent green investments are investments that are capital intensive in nature, which seek to preserve and restore the natural environment, improve climate change adaptation and mitigation, and harness the benefits of ecosystem services for the local community. Although green infrastructure and green stormwater BMP are part of these recommendations, the definition of permanent green investments extends beyond the two.

For example, both FEMA and the USDOT recognize the applicability of green investments to support climate mitigation, disaster recovery, and community resiliency activities and to improve the efficiency and safety of transportation networks [17]. Therefore, the integrated funding model for permanent green investments includes a combination of instruments to support the greening activities related to permanent and physical investments in transportation, local economic development, disaster management community development, and stormwater management.

## Social Investments

Instruments to finance and support social investment recommendations presented in the plan are largely composed of foundation grant funding, fundraising, the City's General Fund, existing federal, state, and local government programs, microloans, and social impact bonds.

**Microloans (ML)** are a tool to promote entrepreneurship by providing small loans to individuals wishing to start a small business but face barriers to borrowing due to a lack of credit history and collateral or steady employment. The SB7 In Demand Strategy can leverage microloans as an alternative financing option to jump start maker-economy businesses, which can revitalize the main streets in the SB7 [18].

**Social Impact Bonds (SIBs)** are a type of public-private partnership that provides an alternative way to finance services. In an SIB, the public sector agency works with a non-profit organization or a for-profit firm to provide services through performance-based contracts. SIBs are an alternative way to help provide services or manage a service related to social outcomes. Impact investors help structure financing, provide capital for upfront costs, and work as intermediaries between the government and the service provider. All members in the partnership negotiate and develop success metrics, define desired outcomes, standards for oversight and governance, performance management, risk mitigation and financial management.

The service providers deliver services to the targeted population. There is an independent evaluator who measures outcomes and assesses the results of the program. The government reimburses the investors if the program meets the pre-defined metrics. Performance-based contracting shifts the risk away from the government and creates flexibility. It allows the public sector to tap into a specialized workforce to help deliver short term or pilot programs and experiment with innovations to improve social outcomes [19]. The City can use SIBs as a tool to finance several of the strategies presented in this plan, including SB7 In Demand's Green Jobs and Digital Jobs Pilots, Community-Based Care, and PEEPS.

## Permanent Green Investments

**General Funds and Grants (GFG) -** Communities and cities traditionally finance permanent green investments via general funds, which places them in competition for financial resources with other public and social services like schools. At the federal and state level, there are many grants available. However, this is a limited approach because awards are not always guaranteed. Furthermore, for permanent green investments related to green infrastructure and green stormwater BMP, most grants and loan programs only cover capital costs, not operations and maintenance costs. Nevertheless, the City can access these relatively quickly to stand up some initial construction related to pilot and interim design projects in the early implementation phase. At the same time, general funds can support maintenance during the tactical urbanism phase.

Tactical urbanism is not typically eligible for federal or state grants. Therefore, the City should source funding for demonstration projects and pilot projects from non-profit foundations and community associations. Non-profit organizations that can provide funding for the tactical urbanism phase include the Abell Foundation. This organization focuses on supporting projects that enhance communities' quality of life, particularly in Baltimore City. Most of the demonstration and pilot projects would be eligible for small grant requests from the foundation with a maximum of $5,000 per award [20].

Examples of permanent green investment grant opportunities include:

- Section 319 Grants (Clean Water Nonpoint Source Grant)
- Clean Water State Revolving Fund
- Drinking Water State Revolving Fund
- Brownfield Grant Program
- Five Star and Urban Water Restoration Grants Program
- Environmental Justice Small Grants Program
- Greening America's Communities
- Better Utilizing Investment to Leverage Development (BUILD) Transportation Discretionary Grant Program
- Building Resilient Infrastructure and Communities Program

**Beneficiary Opportunity Fund (BOF) -** A BOF can ensure a more predictable funding stream to support the maintenance of permanent green investments. A community organization can use a portion of existing grant money and deposit it to serve as the principal amount. A BOF operates like an endowment and generates interest in the principal amount, which the community organization can use to fund operations and maintenance activities.

This type of financial instrument is most appropriate for design-ready green investments related to green stormwater BMP. Unlike a traditional endowment, a BOF provides more flexibility by allowing organizations to access the principal amount. However, accessing the principal amount will result in a smaller principal and decrease the return on investment, funding fewer activities. Likewise, the larger the principal the more activities related to maintenance and operations can be supported [21].

**Infrastructure Improvement Districts (IID)** -IID is an appropriate financing tool for commercial areas interested in installing permanent green investments. In an IID, a group of property owners shares in the costs of infrastructure improvement and maintenance [22]. Most small business associations usually design IIDs to fund capital projects. However, stakeholders could structure an IID like a Common Area Maintenance Fee to fund green infrastructure maintenance [23].

**Parking Benefit District (PBD) -** The future development along the waterfront will transform the SB7 into a tourist attraction and destination, which will create a need for more effective parking management. As such, there is an opportunity to align transportation policy with permanent green investments through financing. One such policy tool is to establish a parking benefit district. In parking benefit districts, revenues generated from on-street parking meters and permits within the community are returned to the neighborhoods to finance transportation improvements. These green transportation improvements include street-lined trees or bike facilities using green infrastructure and green stormwater BMP [24].

Revenues from parking benefit districts do not go into the general fund. Instead, these funds are kept within the local community, where residents can see the tangible benefits of parking revenue at work in their neighborhoods. The City and community should allocate the money towards capital improvement projects to ensure high visibility and garner public support, rather than towards operations and maintenance. In terms of fiscal equity, a parking benefit district shifts the burden away from the community. It provides a way for visitors to pay into the infrastructure they use when accessing the waterfront.

**Stormwater Utility (SU) -** The City of Baltimore currently has a stormwater utility fund that is paid for by property owners. DPW bases fees on the amount of impervious area on a property. These fees help pay for stormwater management operations, maintenance, and capital improvements, as well as reducing pollutants. Projects under the Complete Green Streets and Green Alley strategies that integrate green stormwater BMP can potentially qualify for this dedicated

stream of stormwater project funding. Eligible projects under these strategies can immediately tap into the stormwater fee. The community can partner with the Watershed Planning and Partnerships Section of the Office of Compliance and Laboratories within Baltimore City DPW to meet the City's Municipal Storm Sewer System Permit Program requirements [25].

Additionally, the City has a Stormwater Remediation Program. This program provides private property owners some control over how much they pay for their stormwater fee through a credit program. Currently, one method to reduce fees involves participating in a city-approved event that focuses on projects like stream clean-up, tree planting, and de-paving [26].

The maximum credit granted is $30 per year for 12 hours of participation, which is applicable for the year that the property-owner received the credit. Although the return on investment is not substantial for the individual property owner, there is an opportunity to coordinate a city-approved event with DPW on a right-of-way project at the interim design phase where the integration of green stormwater BMPs is determined to be feasible. Another way private property owners can receive credits is by installing simple BMPs on their property.

While reliance on the remediation program is not sustainable enough to support projects on private property at a larger scale, it can contribute to the demonstration or pilot phase of an alley greening project that integrates green stormwater BMP by organizing a block of residents to participate in the program.

The remediation program is not a mechanism to fund green stormwater BMPs in the SB7 since it only reduces an owners' fee. Instead, it is a tool for community organization, outreach, and education during the early phases of implementation.

**Community-Based Public-Private Partnerships (CBP3)** - A significant limitation with the funding opportunities and financial tools presented is expanding the adoption of green infrastructure BMP on privately owned land. Within the SB7, there are approximately 55 privately owned properties with several faith-based properties located in the Mt. Winans neighborhood. There is an opportunity to supplement the tools mentioned above with market-based mechanisms like a CBP3.

The City can use CBP3s to scale projects that integrate green infrastructure and support the longevity of their benefits and co-benefits. Furthermore, as previously mentioned, another challenge with installing green infrastructure BMP is the long-term maintenance problem, which essentially comes down to financing. Most grants and loan programs only cover capital costs, but not operations and maintenance costs. As a result, this becomes a significant barrier for many communities with limited resources to maintain the lasting benefits.

However, there are communities across the country that are thinking creatively to address this. One such case study is the Prince George's County Clean Water Partnership with the private sector firm Corvias, nationally-recognized as a ground-breaking CBP3. Using the EPA's CBP3 contract model, they

leveraged private-sector dollars to support long-term and large-scale green infrastructure investments. This innovative contract is performance-based and includes stipulations that require 35 percent of contract work use Prince George's County contractors and job training for local youth

Traditionally P3s are thought to be just between a public entity and the private sector [27]. However, P3s can be structured to include the City, a neighborhood organization, and a local non-profit to support smaller-scale projects and ensure strong community involvement from the beginning. A community-based P3 can help support the long-term maintenance and operations once there is community agreement to pursue larger-scale interventions that justify bringing in a private sector partner.

These types of contracts are best for projects that require highly specialized technical expertise. Before establishing a P3, the City should conduct meaningful community outreach to ensure the goals of the P3 and the contract agreement align with community interests. Furthermore, the City should ensure the P3 invests back into the existing community through stipulations like local workforce training and hiring requirements.

**Environmental Impact Bonds (EIB) -** The community can also tap into impact investing like environmental impact bonds (EIBs) to provide the financing for a future P3 before establishing a longer-term partnership. Like a SIB, EIBs are financing instruments where private investors provide the upfront capital to fund these projects. The public agency and the private firm share the performance risks, which reduces the burden of risk on the City should a project not perform [28].

## Integrated Funding and Financing Model

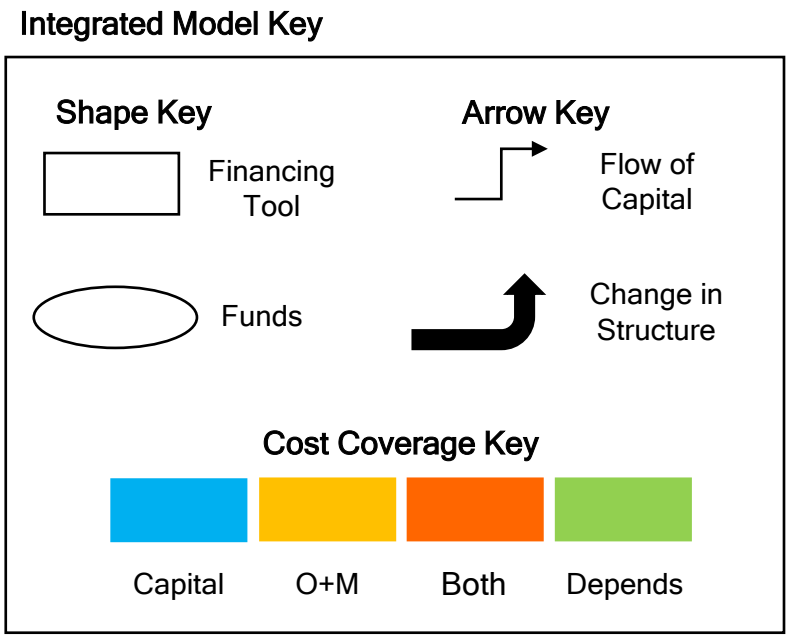
The project team developed a recommended sustainable financing and funding model for the SB7 to support green investments' widespread implementation. This model's structure includes tools to facilitate private property participation. Furthermore, this roadmap adapts the Prince George's County funding model to coordinate the financing for green investments, including mechanisms like Parking Benefit Districts.

The integrated model's goal is to streamline projects that can contribute to both the multimodal transportation goals and the environmental objectives of the City's MS4 permit. The model uses the funding and financing mechanisms mentioned earlier based on three criteria:

- Level of stability
- Speed of implementation
- Ability to support near-term action versus long-term intervention

The graphic contains a cost coverage key. This key indicates which mechanisms cover which costs. Blue signifies that only capital (construction and design) costs are covered, while light orange represents that only operations and maintenance costs are covered. Dark orange means that both costs are covered. Lastly, green indicates that what is covered depends on how the City and other stakeholders structure the agreement.

The graph also distinguishes between funding elements and financial tools, using a rectangle to symbolize the former and an oval to symbolize the latter. Long term, the idea is not to phase out any of these but to have a mix of public-sector and private-sector tools working together. CBP3 is an effective way to support and scale large capital improvements that include green investments and sustain their operations. However, this is but one tool in the financing toolbox. A sustainable funding model will maintain a diversity of funding sources, including grants and public funds.



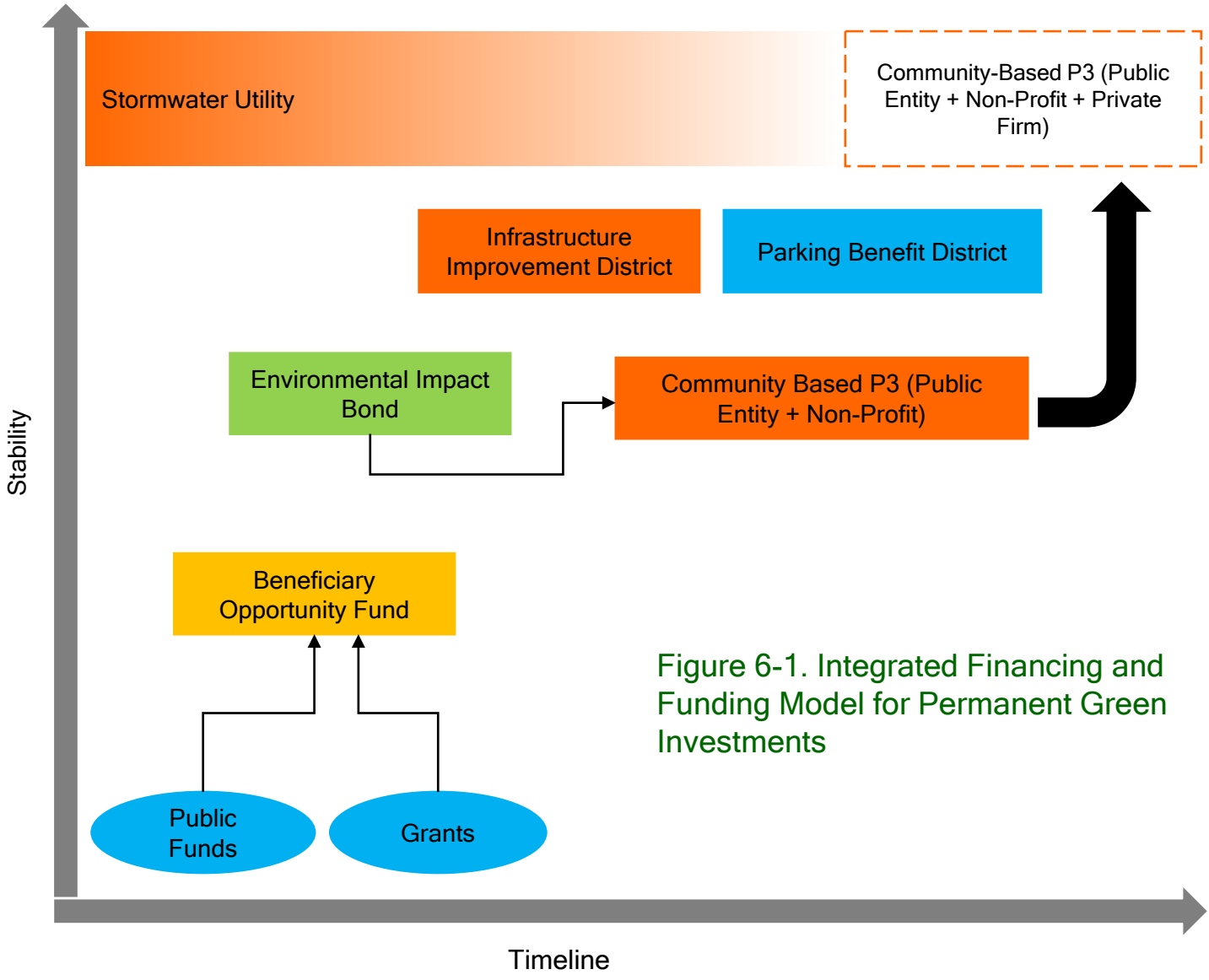




Figure 6-1. Integrated Financing and Funding Model for Permanent Green Investments

# Table 6-5. Funding + Financing Matrix

| | BOF | CBP3 | EIB | GFG | IID | ML | PBD | SIB | SU |
|---|---|---|---|---|---|---|---|---|---|
| Complete Green Streets | X | X | X | X | X | | X | | X |
| Green Alleys | X | X | X | X | X | | X | | X |
| Better Bus Stops | | X | X | X | | | X | | X |
| Digital Community Hubs | X | | | X | | | | X | |
| SB7 In Demand | X | X | | X | X | X | | X | |
| Green Community-Based Care | X | | | X | | | | X | |
| PEEPS | X | | | X | | | | X | |
| Health Homes Weatherization | X | | | X | | | | | |
| Investment Without Displacement | X | | | X | | | | | |

# Recommended Actions

The purpose of this section is to provide additional recommendations to guide the implementation of the *Green Neighborhoods: A Plan for the South Baltimore Seven*. The tables below contain the policy adoptions and actions needed to support the implementation of the strategies. The table includes the respective strategies, information for each policy, and activities supporting those strategies, as well as an approximate timeline. Timeline references the time frame for the policy's or action's implementation.

Short term actions or policies usually can be executed within the first three years since they do not usually require extensive resources or considerable financial investment. Medium-term actions or policies are items that take around three to six years to implement. Medium-term items tend to be related to activities or policies that establish incentives, initiatives, or supporting programs. These items often depend on a short-term item to be implemented as a prerequisite.

Long-term actions or policies refer to things that will take six or more years to implement. These items usually are the most resource-extensive activities that require considerable funding or ongoing investment.

# Table 6-6. Recommended Tasks to Implement SB7 In Demand

| Strategy: SB7 In Demand | | |
|---|---|---|
| **Policy/Action** | **Description** | **Timeline** |
| **Policy** | Policy 1: Adopt a First Source Hiring Policy to support targeted hiring in disadvantage communities. | Short Term |
| | Policy 2: Adopt a Pop-Up Retail Ordinance to better support and encourage a successful and responsible pop-up economy. | Short Term |
| **Actions** | Action 1: Conduct a labor market assessment to gain an understanding of the current job market in the target area | Short Term |
| | Action 2: Conduct a neighborhood-level worker needs and barriers assessment | Short Term |
| | Action 3: Conduct regular local employer listening sessions | Short Term |
| | Action 4: Initiate a “grow good neighborhood jobs” initiative and develop a business retention strategy to help retain existing small businesses such as mom-and-pop stores, restaurants, and small retailers. | Medium Term |
| | Action 5: Develop training curriculum program | Medium Term |
| | Action 6: Identify anticipated program outputs and outcomes and develop program recruitment and screening processes | Medium Term |
| | Action 7: Develop partnerships with local businesses and employers and create job placement agreements | Medium Term |
| | Action 8: Create and conduct a business-attraction marketing campaign | Medium Term |

## Table 6-7. Recommended Tasks to Implement Complete Green Streets, Green Alleys, Better Bus Stops, Green Community-Based Care, Investment Without Displacement, Digital Community Hubs

| Policy/Action | Description | Timeline | Strategies |
|---|---|---|---|
| Policy | Policy 3: Adopt a Low Impact Development Ordinance | Short Term | GA, IWD |
| | Policy 4: Adopt a Dig Once Policy | Short Term | CGS, GA, BBS, DCH |
| Actions | Action 9: Identify initial plan steward for tactical urbanism demonstration and pilot projects | Short Term | CGS, GA, BBS, DCH, IWD |
| | Action 10: Secure strategic partnerships for interim design phase projects | Short Term | CGS, GA, BBS |
| | Action 11: Develop budget for tactical urbanism phase | Short Term | CGS, GA, BBS, IWD, DCH |
| | Action 12: Secure funds for demonstration and pilot projects | Short Term | CGS, GA, BBS, IWD, DCH |
| | Action 13: Select first year priority tactical projects and sites | Short Term | CGS, GA, BBS |
| | Action 14: Select vacant lots to target for immediate community programming | Short Term | GCBC, IWD, DCH |
| | Action 15: Establish vacant property tracker to manage vacant property programming and acquisition | Short Term | GCBC, IWD, DCH |
| | Action 16: Establish project-level outcomes and evaluation metrics | Short Term | CGS, GA, BBS |
| | Action 17: Develop system for data tracking and reporting | Short Term | CGS, GA, BBS, IWD, DCH |
| | Action 18: Establish materials palette for demonstration projects and pilot projects | Short Term | CGS, GA, BBS |

## Table 6-7. Recommended Tasks to Implement Complete Green Streets, Green Alleys, Better Bus Stops, Green Community-Based Care, Investment Without Displacement, Digital Community Hubs

| Policy/Action | Description | Timeline | Strategies |
|---|---|---|---|
| Actions | Action 19: Develop project communications plan | Short Term | CGS, GA, BBS,DCH |
| | Action 20: Develop and disseminate public outreach and educational materials | Short Term | CGS, GA, BBS, IWD, DCH |
| | Action 21: Launch a public-facing repository that centralizes project information. | Medium Term | CGS, GA, BBS, IWDD, DCH |
| | Action 22: Scope planned capital investments for possible integration of green investments | Medium Term | CGS, GA, BBS |
| | Action 23: Conduct feasibility studies over where green investments and green infrastructure BMP can be integrated | Medium Term | CGS, GA, BBS |
| | Action 24: Engage Maryland Department of Transportation to coordinate and scale right-of-way projects on state-owned roads | Medium Term | CGS, BBS |
| | Action 25: Evaluate long-term stewardship models and candidates | Long Term | CGS, GA, BBS, IWD, DCH |
| | Action 26: Secure long-term capital, operations & maintenance funds | Long Term | CGS, GA, BBS |
| | Action 27: Revise performance outcomes and include MS4 permit requirements where appropriate | Long Term | CGS, GA, BBS |

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