



Source: M-NOPPC.

MD 214 at Hall Station Road, near the South Bowie Library.

2.5 Transportation and Mobility



The Bowie-Mitchellville and Vicinity master plan area is conveniently located in the middle of a triangle formed by the cities of Baltimore, Annapolis, and Washington, D.C. As a result, there are several important road and rail links traversing the area. Bowie is in close proximity to the metro and bus transit services provided by the Washington Metropolitan Area Transit Authority (WMATA), and has portions of the East Coast Greenway biking and walking route running through the area.

Transportation and mobility in Bowie-Mitchellville and Vicinity revolve heavily around car travel. Planning documents over the past 20 years or more have imagined a walkable, bike-friendly, and transit-accessible community that is committed to sustainability and economic development. However, residents rely on the single-occupancy automobile for the overwhelming majority of all trips, especially the journey to work. The transportation system and land use pattern in the master plan area both support and reflect this reliance on car travel.

The transportation system has a rigid hierarchy of roads that feeds all traffic onto increasingly high-volume, high-speed, and multilane highways that are major barriers to walking, bicycling, and transit. There are few realistic alternatives to driving due to a lack of infrastructure (e.g., sidewalks and bike lanes) or transit service.

Land uses are separated so that the places people live are disconnected from the places they need to access for shopping, education, recreation, employment,

healthcare, and government services. The boundaries of these different land uses are frequently defined by busy roads that are frustrating for people in cars, and difficult to cross and inhospitable for people walking, bicycling, or taking transit.

Driving in Bowie-Mitchellville and Vicinity presents a convenient option for residents. There are few roads that experience any prolonged periods of congestion, there is an ample supply of free or inexpensive parking, few trips are short enough to walk or bike even if conditions on the road encouraged these modes of travel, and there is limited transit service.

The master plan area is caught in a cycle of auto-dependency that has adverse effects on the quality of life, health, safety, environment, and sustainability of the community. The reliance on cars for almost every trip has resulted in a network of busy, wide roads that are difficult to cross; acres of parking lots that are inhospitable for walking; and long and inconvenient trips by foot, bike, and transit that further discourage their use even for local trips and activities such as getting to school. There is a perception of a busy and congested roadway network, which is fueled by regional congestion hotspots nearby (e.g., the Capital Beltway and sections of US 50 outside the master plan area).

COVERED IN THIS SECTION:

- Transportation Context
- Inventory of Major Transportation Assets
- Transportation Safety

What are the current conditions of Bowie-Mitchellville and Vicinity's transportation infrastructure? What are the greatest barriers to a more walkable, transit-accessible, and bike-friendly community?

Transportation Context

According to the Center for Neighborhood Technology, the City of Bowie has a Housing and Transportation Index score of 43, which means that the average household spends 43 percent of its income on housing and transportation.¹ This is fractionally below the 45 percent figure considered as “affordable.” In the City of Bowie, annual transportation costs are slightly higher than recommended, while housing costs are slightly under the threshold considered affordable. In several areas adjacent to the city, housing prices are significantly higher than the national recommended threshold of 30 percent of household income. This pushes the exurban areas of Woodmore and Fairwood to Housing and Transportation Index scores that are 10 points above the recommended total.

Bowie-Mitchellville and Vicinity is an affluent and diverse suburban bedroom community. The master plan area population of 85,000 is predominantly non-White (62,000) and homeowners—only 11,000 live in rented housing. There are 46,000 people who commute to work, and the overwhelming majority drive to locations outside the master plan area for their employment. For example, only 1,418 City of Bowie residents live and work in the city; more

than 25,000 leave the master plan area. The biggest commuting destination is Washington, D.C., where approximately 20 percent of commuters in the master plan area commute. The second highest is the City of Bowie at approximately 5 percent. Other destinations are distributed throughout the surrounding counties and cities, including Baltimore, Columbia, and Parole in Maryland, none of which exceed three percent of master plan area commuters.

Seventy-five percent of commuters drive to work alone, and an additional 8.5 percent carpool. Only 10 percent take transit as their primary mode, and even this number may include people who drive to park and ride lots and to regional transit services (e.g., the New Carrollton and Largo Town Center Metro Stations or the MARC station at BSU). One percent of commuters walk and just a handful of people ride their bikes to work (approximately 20 people).

Within this overall picture, there are some notable local variations. Commuters in Glenn Dale are more likely to take transit to work (12 percent), while residents in the Fairwood neighborhood are more likely to carpool (13 percent) than their neighbors. Residents in the Woodmore neighborhood have a

Figure 54. Housing and Transportation Index in Bowie-Mitchellville and Vicinity

	Housing % of Household Income	Transportation % of Household Income	H&T Index
National Benchmark	30	15	45
City of Bowie	28	16	43
Glenn Dale	33	17	50
Queen Anne Estates	36	16	52
Woodmore	37	17	54
Fairwood	37	17	54

Source: Center for Neighborhood Technology, 2017.

¹ Based on the Center for Neighborhood Technology's Housing and Transportation Affordability Index. See: <https://htaindex.cnt.org/about/>.

higher-than-average drive-alone rate (77 percent) and more than 5 percent of them have “super-commutes” of more than 90-minutes each way.

Mean travel times for commuting are typically 10 minutes longer than the national average of 25 minutes each way. Glenn Dale commuters have the shortest average commute time of 34 minutes each way, Woodmore residents have the longest at 38 minutes, the City of Bowie residents typically drive 35 minutes each way.

The suburban nature of the community is also evident in data around car ownership. Nationally, four percent of households do not have access to a motor vehicle—in the master plan area the figure is one-quarter of this. Just one percent of households in the City of Bowie and Woodmore have no cars; in Fairwood there are no households without a car. Glenn Dale is the only part of the study area with the national average figure of four percent of households with no car.

Conversely, 75 percent of households nationwide have 2 or more cars and 35 percent have 3 or more cars. In the master plan area, Glenn Dale has the lowest percentage of households with 2 or more or 3 or more cars (83 percent and 48 percent respectively), while Woodmore has the highest (88 percent and 54 percent respectively). Almost one-quarter of Woodmore households have four or more cars. This is a very high level of car ownership.

These data points are significant because many of the common demand factors for active transportation (walking, biking, and taking transit), such as households in poverty, zero-car households, proximity to major employment centers, and mixed-use, high-density development are largely absent from the study area.

Figure 55. Total Commuters in Bowie-Mitchellville and Vicinity, by Mode

Commuters	Count	Percent
Total Commuters	46,077	100%
Drive (and all other)	41,076	89%
Transit	4,493	10%
Walk	482	1%
Bike	23	0%

Source: American Community Survey (2017).

EMERGING TRANSPORTATION TECHNOLOGIES

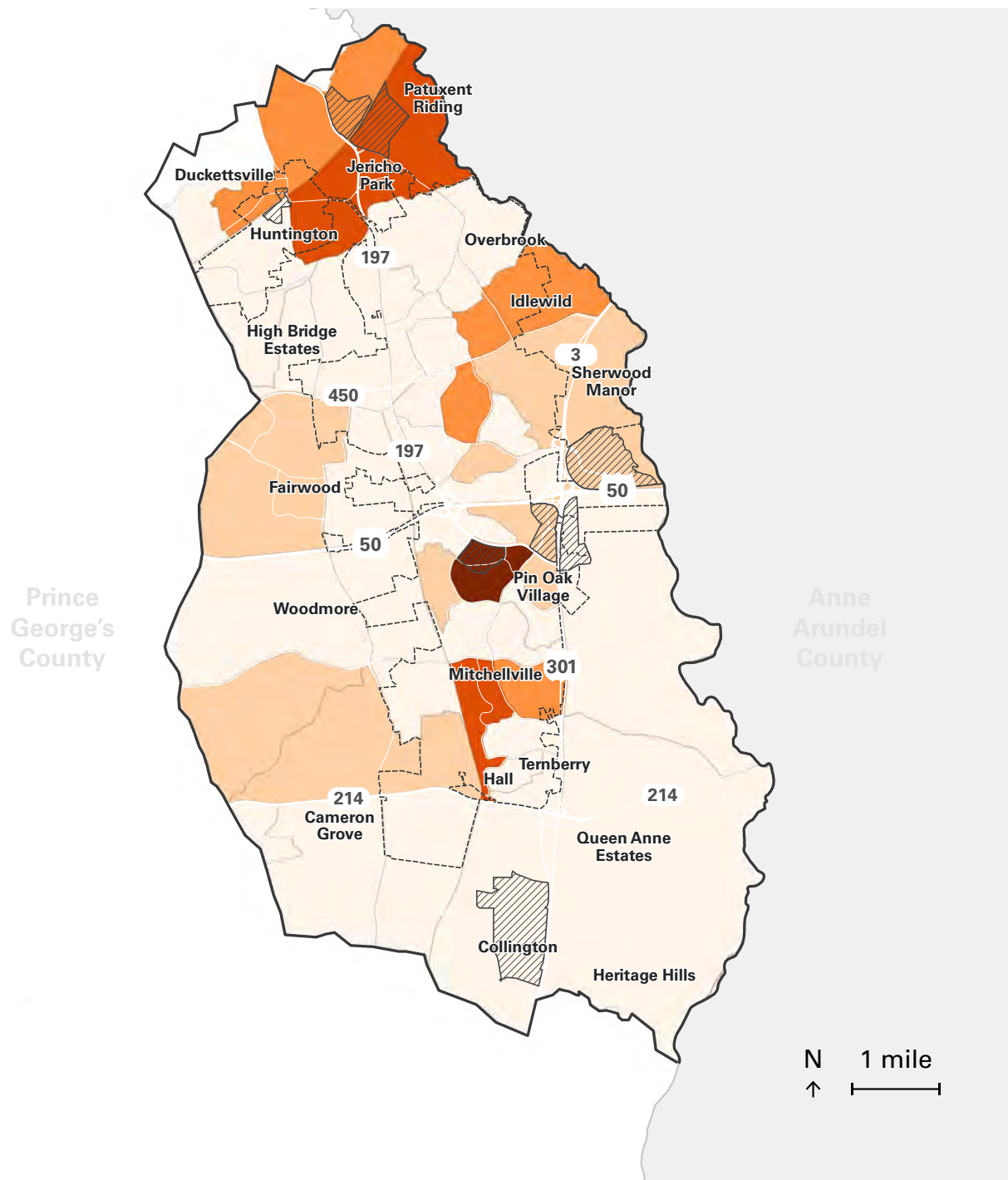
The heavy dependence on motor vehicles and high car ownership levels may also explain the limited presence of emerging transportation technologies, vehicles, and micromobility devices. Bikesharing systems and scooters work well where there is a high density of users and destinations within a well-defined geographic area that generates a high number of short trips that can be made on safe streets. Those conditions do not exist in the master plan area, even at the Bowie Local Town Center or the BSU Campus—although the latter may be the most likely place for a system to thrive.

Electric-assist bikes and electric scooters can help overcome longer distances—but still require safe infrastructure to make them feasible and desirable. Even ride-hailing services such as Uber and Lyft appear less present in the master plan area than elsewhere in the region, based on anecdotal insights. It is said to be easier to arrange for a trip to the study area, but much harder to find a ride once in the area.



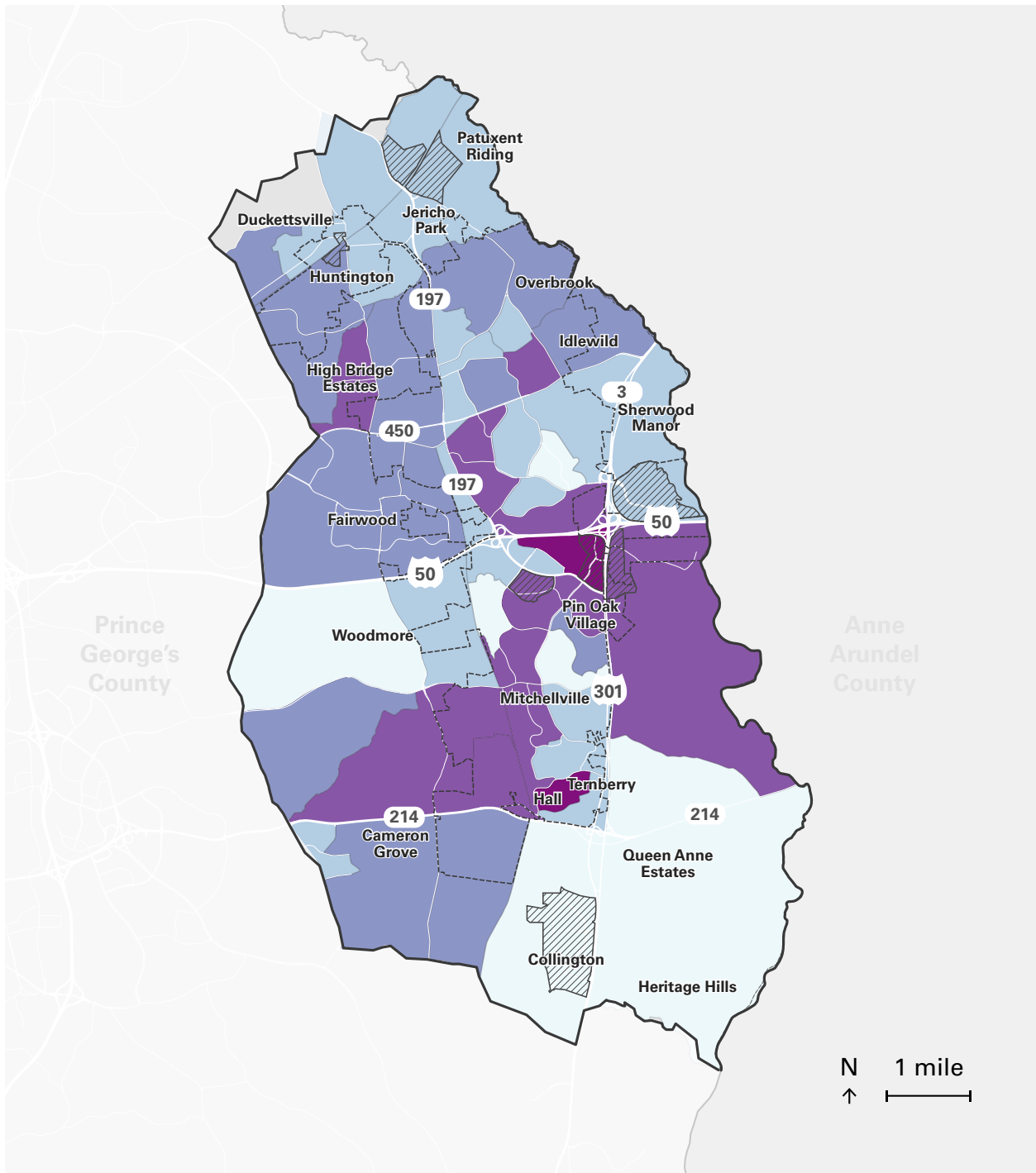
Source: M-NCPPC.

Map 47. Percentage of Population that Walks to Work (2017)



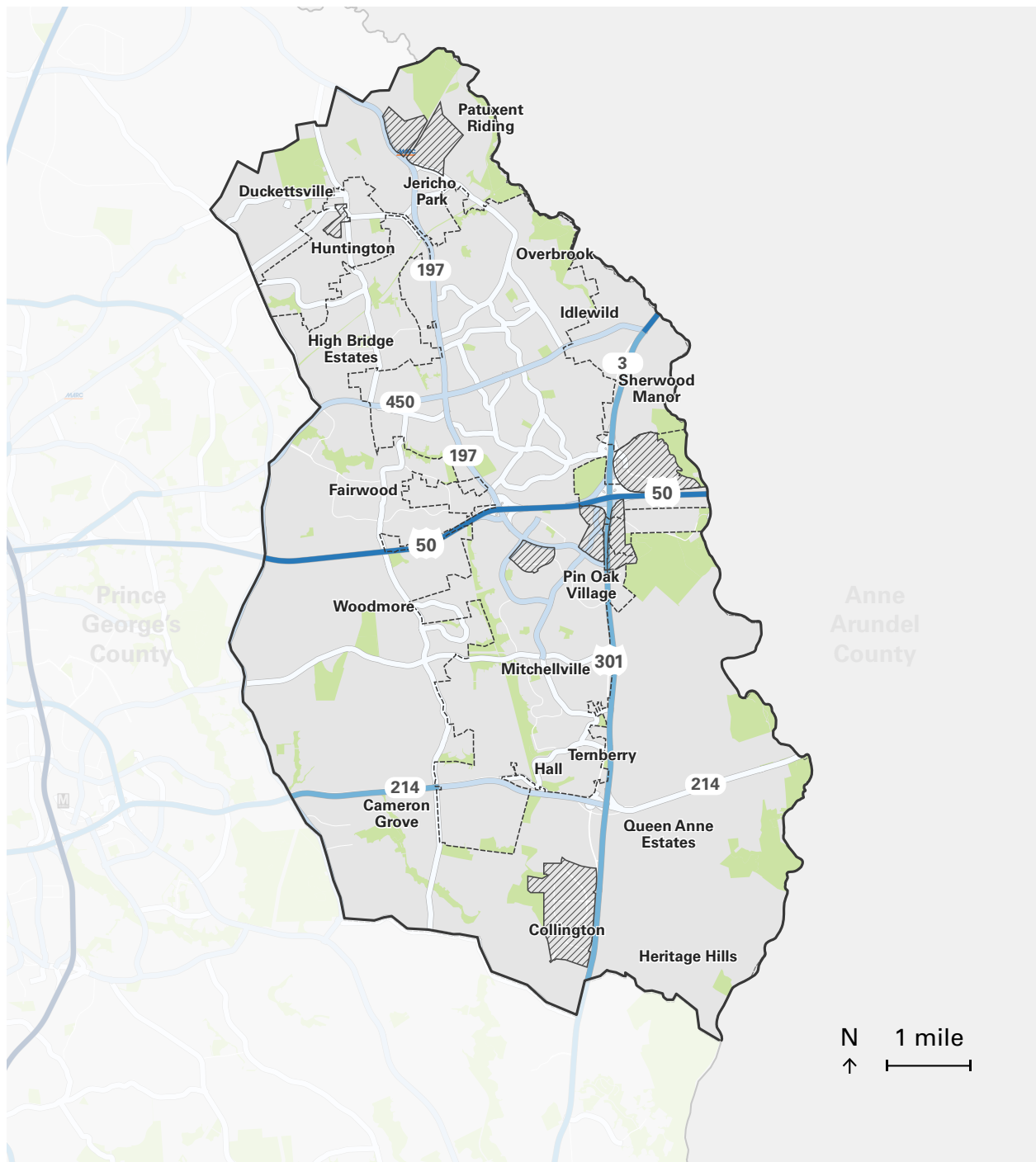
Source: American Community Survey 2017, Five-Year Estimates.

Map 48. Percentage of Population Using Public Transit (2017)

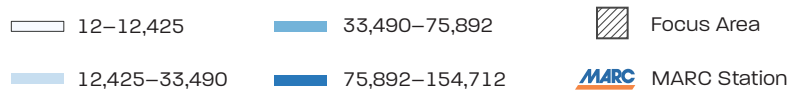


Source: American Community Survey 2017, Five-Year Estimates.

Map 49. Total Annual Average Daily Traffic (2017)



Average Daily Traffic Total (number of cars)



Source: Maryland Department of Transportation.

Inventory of Major Transportation Assets

This section documents the major transportation assets in Bowie-Mitchellville and Vicinity in four key categories: driving, walking, transit, and bicycling.

DRIVING INFRASTRUCTURE

The master plan area is dominated by two major state highways that carry high volumes of traffic.

US 50 (John Hanson Highway), which dissects the study area from east to west, is one of the busiest roads in the state and the metropolitan region, carrying up to 155,000 vehicles a day. By comparison, the busiest interstates in the region carry volumes in excess of 250,000 vehicles a day and the busiest major arterial roads (not limited access) carry approximately 100,000 vehicles per day. The limited access highway has two large, grade-separated intersections in the master plan area, at MD 3/US 301 (Crain Highway) and MD 197 (Collington Road). This is a major regional commuting corridor linking Annapolis and Washington, D.C., and is also the primary route to the Eastern Shore of Maryland via the Chesapeake Bay Bridge. The most recent State Highway Administration (SHA) congestion assessment identified US 50 as “uncongested” in the morning peak and “congested” on the westbound side in the evening peak.²

MD 3/US 301, which traverses the eastern side of the master plan area, is a principal arterial route that carries volumes in excess of 75,000 vehicles a day. This busy north-south highway is a critical regional link to Interstate 97 and Baltimore to the north and connects to the rapidly growing communities of Waldorf and La Plata to the south.

The SHA has identified US 301 south of the intersection with US 50 as a congested corridor. The SHA’s 2013 Congestion Assessment identifies the corridor as having “moderate” congestion in both directions between US 50 and Collington Road in the mornings; the southbound side has heavy congestion in the afternoons. MD 3 to the north of US 50 is rated as having heavy congestion southbound in the mornings and moderate congestion in both directions in the evening peak hours.³ There is a long term plan to change the corridor to a limited access freeway or interstate. This will have an important impact on future land use and development decisions, as land to the east of the corridor will effectively be cut off from development to the west.

Other major state highways in the master plan area include east-west routes such as MD 214 (Central Avenue) and MD 450 (Annapolis Road); MD 193 (Enterprise Road), a busy north-south route that marks the western edge of the master plan area; and MD 197, which connects the Bowie Local Town Center with BSU and the Bowie State MARC Station to the north.

These arterial roads are typically multilane, divided highways with significant volumes of high-speed local and regional traffic, often carrying up to 35,000 vehicles per day. Most of the major commercial and retail areas within the community are located on these roadways, which generates significant volumes of local traffic.

Enterprise Road is rated as having moderate congestion in the morning and heavy congestion in the evening peak hours between MD 214 and MD 450. For much of this stretch, the road is two- or three-lanes wide with turn lanes at intersections.

Central Avenue is rated as “uncongested.” Annapolis Road experiences moderate congestion in the direction of flow—eastbound between US 3 and Collington Road, and westbound for the entire length inside the master plan area.

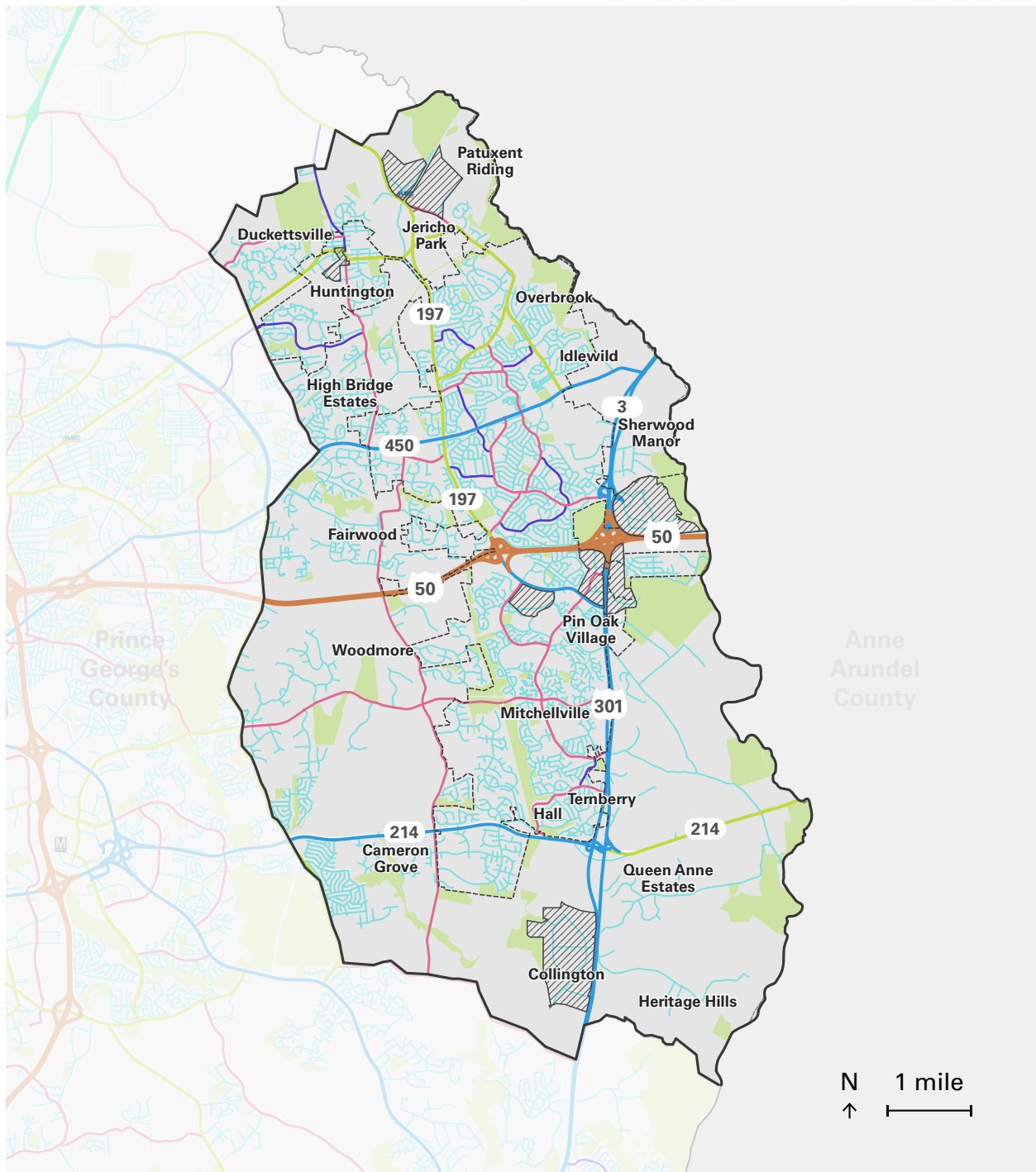
MD 197 between US 50 and MD 450 was identified as having “heavy” congestion in the 2013 statewide congestion assessment. This section of roadway carries most of the traffic accessing and egressing US 50 and traveling to the north of the master plan area, it serves several commercial and retail areas (including Bowie Local Town Center further to the south), and is close to several schools and recreation areas. The state has an ongoing project to widen this section of road and increase the capacity of the intersection with MD 450.

Relatively few County or local roads traverse the master plan area or provide long, continuous routes within it. For example, Church Road and Woodmore/Mt. Oak Road are the only County or local roads in the southern half of the master plan area that create a connected through network—they effectively create a two-mile grid within the boundaries of US 301, US 50, MD 214, and MD 193. In the northern half of the master plan area, MD 197 and MD 450 are the only roads that traverse the master plan area. Roads such as Race Track Road and Church/Highbridge/Chestnut Road offer limited through access.

² Maryland Department of Transportation. https://www.roads.maryland.gov/OPPEN/PrinceGeorges_Congestion.pdf.

³ Ibid.

Map 50. Road Functional Classification



Functional Classification



Source: Maryland Department of Transportation.



Source: Consultant Team.

MD 197 near Town Center.



Source: Consultant Team.

Car parking near Bowie Town Center.



Source: Consultant Team.

MD 197 and Northview Drive.

A NOTE ABOUT PARKING

Parking is an essential element of the infrastructure necessary to support driving. There is ample car parking throughout the study area and, with few exceptions, it is free. While parking is necessary, the apparent oversupply of surface and on-street parking in the study area exacerbates the lack of walkability and access at every destination. For example, the sea of parking surrounding every building in Bowie Town Center means that the entire development is only practically accessible by car, and only the main street of retail mall is “walkable”.

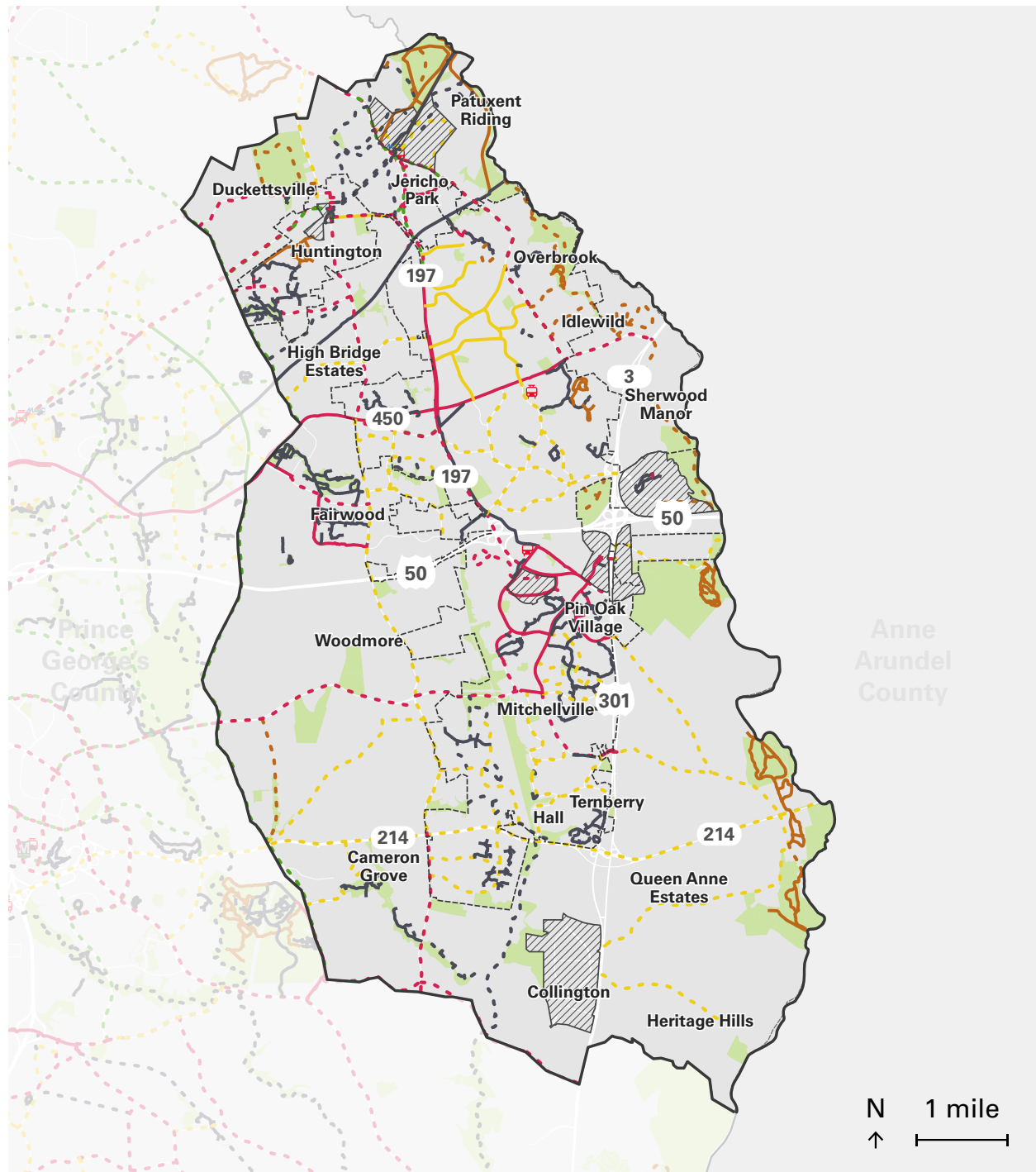
The master plan area is dominated by two major state highways that carry high volumes of traffic.

These County or local roads tend to be two-lane roads (with some extended, intermittent sections of 3- or 4-lanes) with high speeds (45 mph), except for short periods of intense use during rush hours when they are congested. This tends to exacerbate congestion by forcing all traffic onto a small number of through streets, and makes those streets much more challenging for people on foot or bike.

The overwhelming majority of local and residential roads form a disconnected, suburban cul-de-sac pattern of development that requires all traffic to use the arterial roadway network as part of every trip. These local roads have low volumes of traffic but are typically wide enough to encourage speeds in excess of the posted speed limits and desirable residential traffic speeds.

Several roads in the master plan area are designated scenic and/or historic roads. Church and Woodmore Roads, for example, are designated scenic and historic roads, and sections of Governors Bridge Road are designated as historic roads. Roads including MD 197 (Collington Road) are proposed for historic designation. The designation reflects the valuable viewsheds along these corridors, as well as the important cultural and historic resources found on or near them. Historic roads are typically those that have been identified on maps since before 1828. Development along these corridors, as well as changes to the roadways themselves, is required to consider the impacts to the resource and to preserve the viewshed. Historic and scenic roads are discussed in further detail in Section 2.6. Community Heritage, Culture, and Design.

Map 51. Existing Pedestrian and Bicycle Infrastructure



Existing Bicycle Facilities

- Bike Lane
- Natural Surface Trail
- Side Path
- Hard Surface Trail
- Shared Roadway
- Park and Ride

Planned Bicycle Facilities

- - - Bike Lane
- - - Natural Surface Trail
- - - Side Path
- - - Hard Surface Trail
- - - Shared Roadway

Source: GIS Data Catalogue, Prince George's County Planning Department.

WALKING INFRASTRUCTURE

There is no walking infrastructure (e.g., sidewalks or paths) along either of the two major highways in the master plan area (US 50 and US 301). There are very limited opportunities to safely or conveniently cross either of these corridors on foot despite the presence of important destinations and services (particularly on US 301 just south of US 50). In fact, in the entire master plan area there are only two at-grade signalized crossings of US 301 (at Ballpark Road and Harbor Way) and one grade-separated crossing of US 50 for people on foot and bicycle to use.

State highways such as MD 214 and MD 450 have limited and intermittent infrastructure to support walking. This presents a challenging environment for people seeking to access shops, services and other destinations along these roads, as well as those taking the bus.

Where sidewalks do exist, they are frequently narrow and in poor condition. The walking experience is significantly enhanced when sidewalks are at least five feet wide and there is a buffer (e.g., a grass strip) from motor vehicle traffic, especially when vehicle speeds exceed 25–30 mph.

Signalized crossing opportunities of state highways are extremely limited and offer minimal protection from turning vehicles. Where unsignalized crossings are provided, they are typically insufficient because of high motor vehicle speeds (30 mph and higher), multiple lanes and long crossing distances, high volumes, and poor markings/visibility.

There are numerous instances of intersections where only three of the four legs have signalized pedestrian crossings (e.g., Collington Road and Northview), requiring people on foot to circumnavigate the entire intersection to cross the road. This is usually done to allow a free right turn or right turn filter for drivers.

County roads (e.g., collectors such as Church and Woodmore Roads) typically have sidewalks only where they have recently been widened from two-lane roads to three or more lanes. The result is an inconsistent sidewalk network with significant gaps. The long stretches of two-lane roadway (often with a ditch on either side) offer no safe place to walk; they also have very few destinations along them as land uses are rarely mixed.

The road widening projects frequently do include marked or signalized crossings for pedestrians at intersections—although they also have the



Source: Consultant Team.

Pedestrian infrastructure at the Bowie Local Town Center is overwhelmed by parking and roads.

disadvantage of adding more lanes for pedestrians to cross, and with no protection from drivers turning left or people turning right on red. As with state roads, there are long stretches of these County roads with no marked crosswalks; where they are marked, they are rarely controlled.

Local collector streets in the City of Bowie typically have sidewalks on at least one or both sides of the road, frequently with a buffer from the edge of the travel lane. The sidewalks are narrow and are in varying states of repair. Residential roads do not usually have sidewalks. There are few marked crosswalks, even at intersections.

The City of Bowie has a Walk Score of 25 (out of 100) and is described as “a car-dependent city” with few bike lanes, minimal public transportation, and as a place where “most errands require a car.”⁴ The lower density areas that make up the rest of the master plan area bring the overall regional score down to just 14. Walk Score measures the number of destinations within walking distance of residents in any given location—and

4 <https://www.walkscore.com/MD/Bowie>



Poorly maintained sidewalk/sidepath on MD 197 at Old Annapolis Road.



Where the sidewalk ends at Church Road and Fairview Vista Drive.



Multiple driveways and a narrow buffer between pedestrians and high speed traffic on MD 197.



Uncontrolled crossing of Church Road and Fairview Vista Drive; scene of a fatal pedestrian crash in 2019.



New sidewalk in the Fairwood neighborhood with a wide grass buffer between the sidewalk and roadway.



An unmarked crosswalk connecting to Allen Pond across Northview Drive.



There is no signalized or marked crossing of Northview Drive at Collington Road or anywhere between Collington Road and the Park and Ride facility on Northview Drive.

Source (all): Consultant team.

a low score such as this indicates that there are few shops, restaurants, social services, and other similar destinations within walking distance of residents.

TRANSIT INFRASTRUCTURE

The transit system in the master plan area consists of a limited number of bus lines (MTA and Metrobus), a MARC station at BSU, and three park and ride lots. The MARC station serving BSU sees an average of approximately 700 boardings per day and has a car parking capacity of 675.⁵ Despite the proximity of the BSU campus, potential ridership is relatively low. Only eight percent of off-campus students live within a five-mile radius of the campus and station and there are currently no realistic alternatives to driving to access those locations.⁶

The MTA and Metrobus lines connect to key locations within Bowie and its vicinity, including BSU and the Bowie Local Town Center. The bus lines connect to surrounding cities with stops and terminate at WMATA Metrorail stations and the MARC station at BSU. There are six bus lines currently serving the master plan area. As all the bus lines connect to the New Carrollton Metro Station, many of them have schedules that are limited to commuter times. This limits connection options during off-peak hours. The bus lines have infrequent and inconsistent schedules, with a minimum of 30-minute headways between buses, and a limited number of routes. This contributes to the need for indirect routes and long trips, which makes relying on transit inefficient and undesirable. For example, Route B21/22 loops around the residential neighborhoods in Somerset instead of taking a direct and quicker route; this also makes getting to the bus stop a trip of its own.

Bus Ridership

Bus ridership in the master plan area is low, as seen in data from daily weekday bus boardings and alightings on all WMATA bus services running in the master plan area for fall 2019. The information includes the average number of passengers who get on and off at each bus stop on every route that passes through the area. There were 2,841 data points (i.e., bus stops). There was no activity recorded at approximately one-third of the stops (more than 830 stops saw no one get on, and no one got off at more than 900 stops), and at more than 2,100 stops fewer than one passenger was recorded getting on or off.

Figure 56. Potential MARC Ridership at Bowie State University (2018)

	Students	Staff
Live within 5 mile radius of BSU	29%	16%
(on campus)	21%	
(off campus)	8%	
Drive 5 miles or less to school	25%	10%
Within 1 mile of MARC	2%	2%
Within 5 miles of MARC	32%	30%

Source: Bowie State University.

In fall 2019, 10 or more people got on a bus 62 times during the average weekday. Forty-one of these occasions were at bus termini outside the master plan area (e.g., New Carrollton, Addison Road, Prince George's Community College). The Bowie Park and Ride Lot B saw the highest ridership, with 30 or more people boarding a bus on 3 routes and close to 17 passengers on 2 more buses. The BSU campus had 4 buses with more than 10 passengers getting on at the library; there were relatively high levels of use on the midday services. There were three bus stops along MD 214 (Central Ave) where 10 or more people got on a bus, and at one of those locations that happened on 2 different buses. For a timetable of bus routes serving Bowie-Mitchellville and Vicinity, please see Appendix C. Bus Service Timetables on page 231.

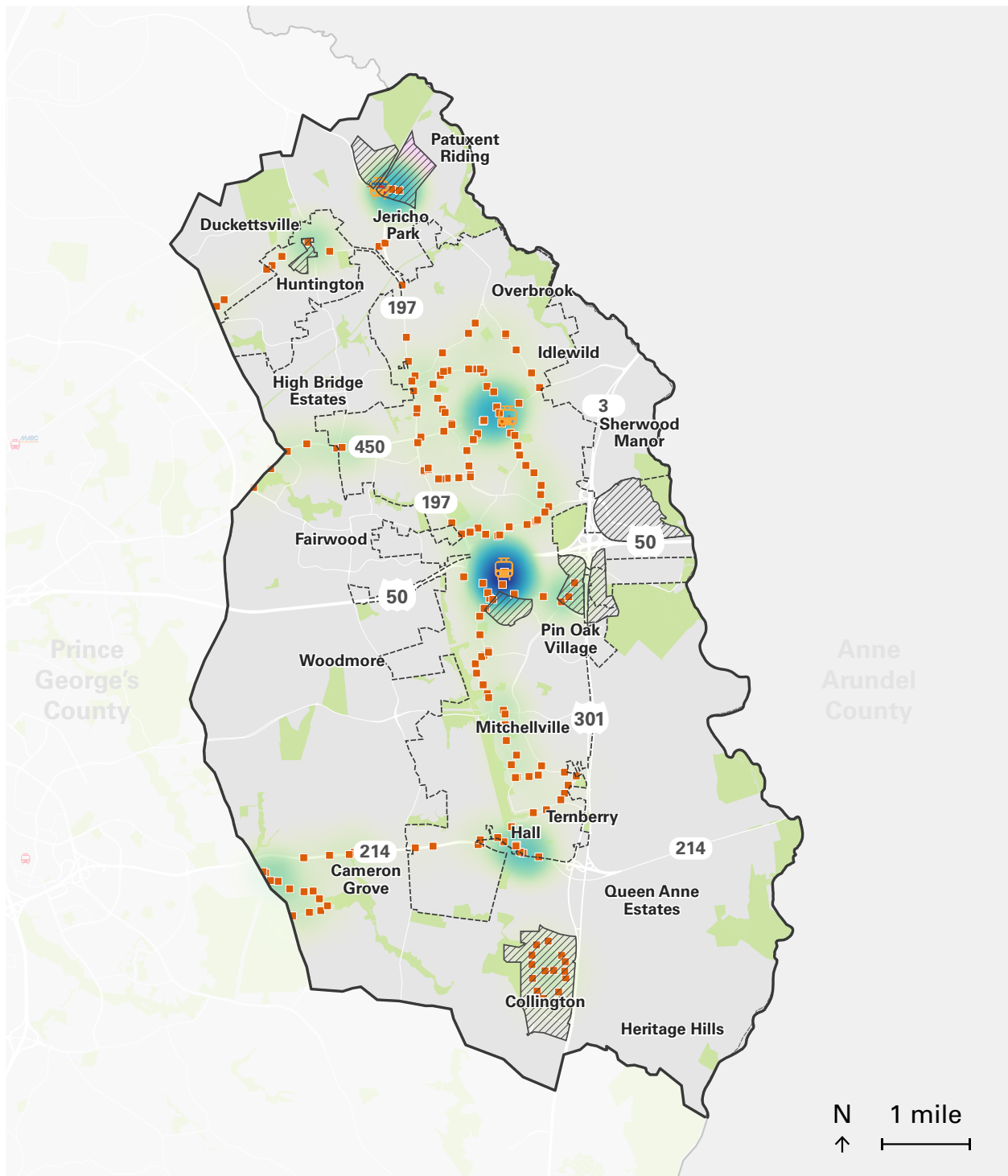
Not surprisingly, a similar picture emerges of the number of people getting off buses in the master plan area. There were 81 buses that saw 10 or more people get off at a particular bus stop, 49 of these were at termini outside the master plan area (e.g., Crofton Country Club, Addison Road, and New Carrollton). Seven of the buses served stops on the BSU campus and five dropped passengers at the Bowie Park and Ride Lot, with another two buses dropping people at Northview/Collington Road and two more serving the health center on Northview Drive.

There were two stops on Hall Road (at Pointer Ridge Drive and Central Avenue). that had an appreciable number of passengers, as well as two stops on MD 450 (Annapolis Road) at the western edge of the master plan area. One stop in Old Town Bowie, at 9th Street and Railroad Avenue, has one bus where more than 10 passengers disembarked at one time.

⁵ MTA/MDOT email correspondence.

⁶ Margrave Strategies, 2018; Bowie State University Final Review.

Map 52. Bus Ridership Activity (Fall 2019)



- Metro Bus Stop
- MARC Station
- High
- Park and Ride
- Focus Area
- Low

Source: WMATA, Open Street Map, M-NCPPC.

Overall, the data confirm that transit has limited use in the master plan area, primarily serving BSU and the Bowie Town Center area, with the addition of a hub of transit activity in south Bowie (Central Avenue and Hall Road). People are traveling to and from the regional Metro system, or using the park and ride facilities—which also suggests two short car trips at each end of the bus ride. They are typically traveling in the direction of regional commuting patterns, i.e., from Bowie westwards in the morning toward Washington, D.C., and the reverse direction in the evening.

Bus service is not supported by the necessary infrastructure to provide safe and comfortable use by riders. Lack of bus stops and first and last mile connections for bikes and pedestrians discourages transit users.

There are three park and ride lots within the master plan area at Bowie MARC Station, Bowie Town Center, and on MD 450. These are equipped with covered shelters and benches; however, they are hard to access by foot and by bike and they are not in convenient or central locations (for example, the Bowie Town Center facility is a long walk across at least two busy roads and a sea of car parking from a primary destination such as the shopping center). This limits their functionality and attractiveness.

A potential circulator bus loop has been proposed to connect Bowie Town Center with new developments at Melford. A shuttle service was recently introduced between the BSU campus and Bowie Town Center to serve students, particularly on weekends and evenings when the Metro and MTA bus schedules are non-existent or very limited.

The nearest Metro stations are New Carrollton (Orange Line), College Park (Green Line), and Largo Town Center (Blue/Silver Line). None of these is within a walking or bicycling distance from the master plan area. They are served by MTA bus lines and the services using the Park and Ride lots. The New Carrollton Metro Station is 8 miles from Bowie Town Center and the Largo Station is approximately 10 miles away. In both cases, the stations provide ample car parking and kiss and ride options for drivers (and their passengers) and the drive time is less than 15 minutes. The bus takes a minimum of 22 minutes and the schedule is frequently set to take much longer than this.

The Bowie MARC Station is part of the Penn Line serving local commuter rail stations between Washington, D.C. and Baltimore, including the New Carrollton and BWI Amtrak stations. Service on the line is daily; the station is fully Americans with



Source: Consultant Team.

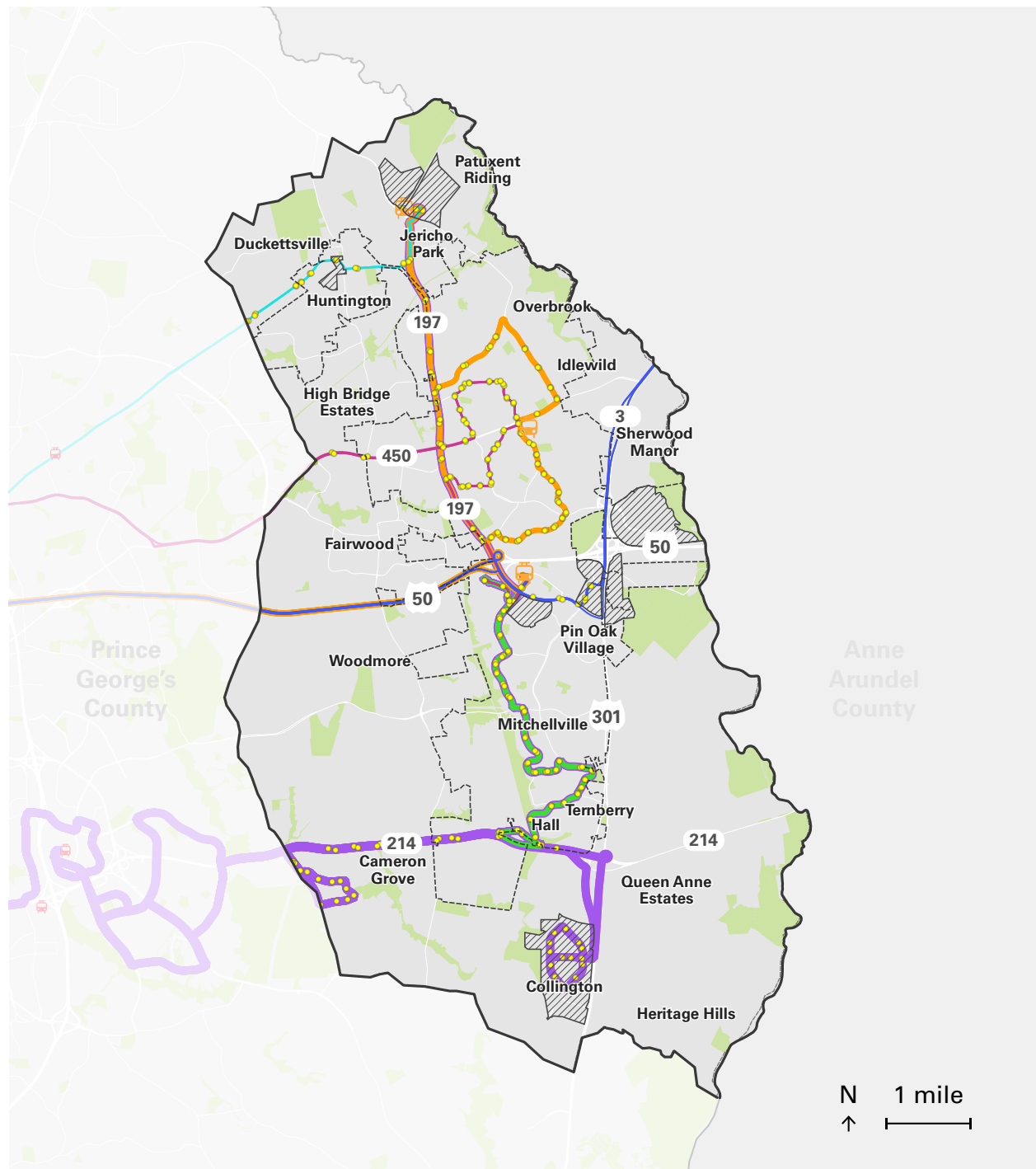
Bus stops along MD 197 have no seats, shelter, place to wait, or safe crossings.

Disabilities Act (ADA) accessible. The station received 703 passenger boardings on an average weekday in 2017. Bowie State University provides a 15 percent discount on MARC passes to students.

Map 54. Bus Stop Walking Access in Bowie-Mitchellville and Vicinity shows the practical pedestrian accessibility of bus stops along routes serving Bowie-Mitchellville and Vicinity, taking into account pedestrian conditions. This map excludes features not suitable for pedestrian activity, including unsafe crossings, significant intersections, limited-access highways crossings, and dual carriageway crossings. Crossings identified as unsafe were also removed from the walkable network in this map.

The absence of sidewalks on busy roads and adequate crosswalks at intersections dramatically limits the population within a safe and convenient walking distance of transit. The greatest concentration of walking access to transit lies within the City of Bowie, with relatively strong coverage around the more densely developed Bowie Town Center. New Melford, however, does not fall within the practical walkshed for bus stops. Outside of City of Bowie, Cameron Grove sees relatively greater access to bus stops by foot.

Map 53. Bus Service Routes Serving the Master Plan Area.





Metro Bus Line

— Crofton-New Carrollton
— Bowie-Belair

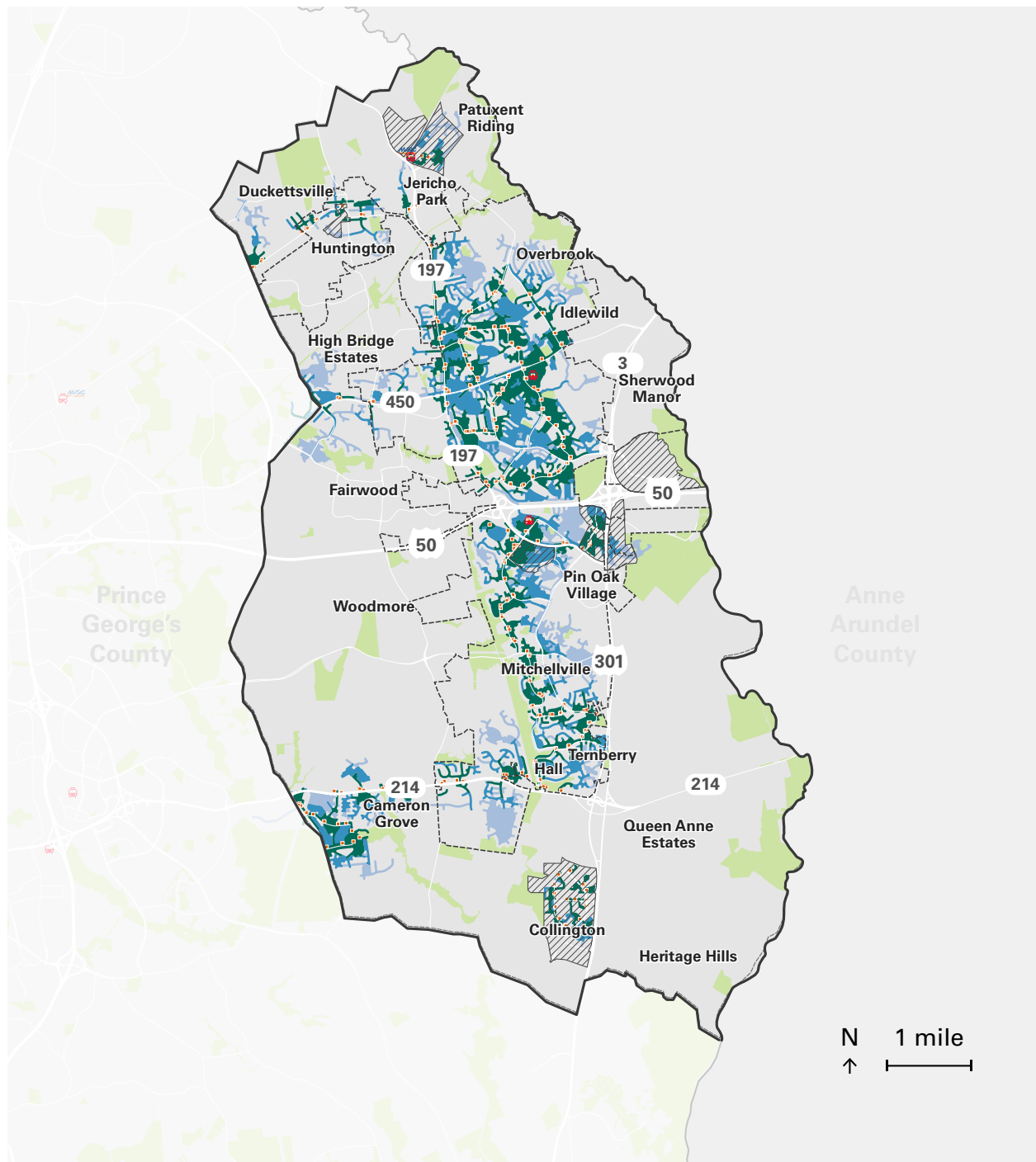
— Bowie-New Carrollton
— Pointer Ridge

— Bowie State University
— Central Avenue








● Metro Bus Stops
 Park and Ride
 Focus Area

Source: D.C. Office of the Chief Technology Officer, Prince George's County Planning Department.

Map 54. Bus Stop Walking Access in Bowie-Mitchellville and Vicinity

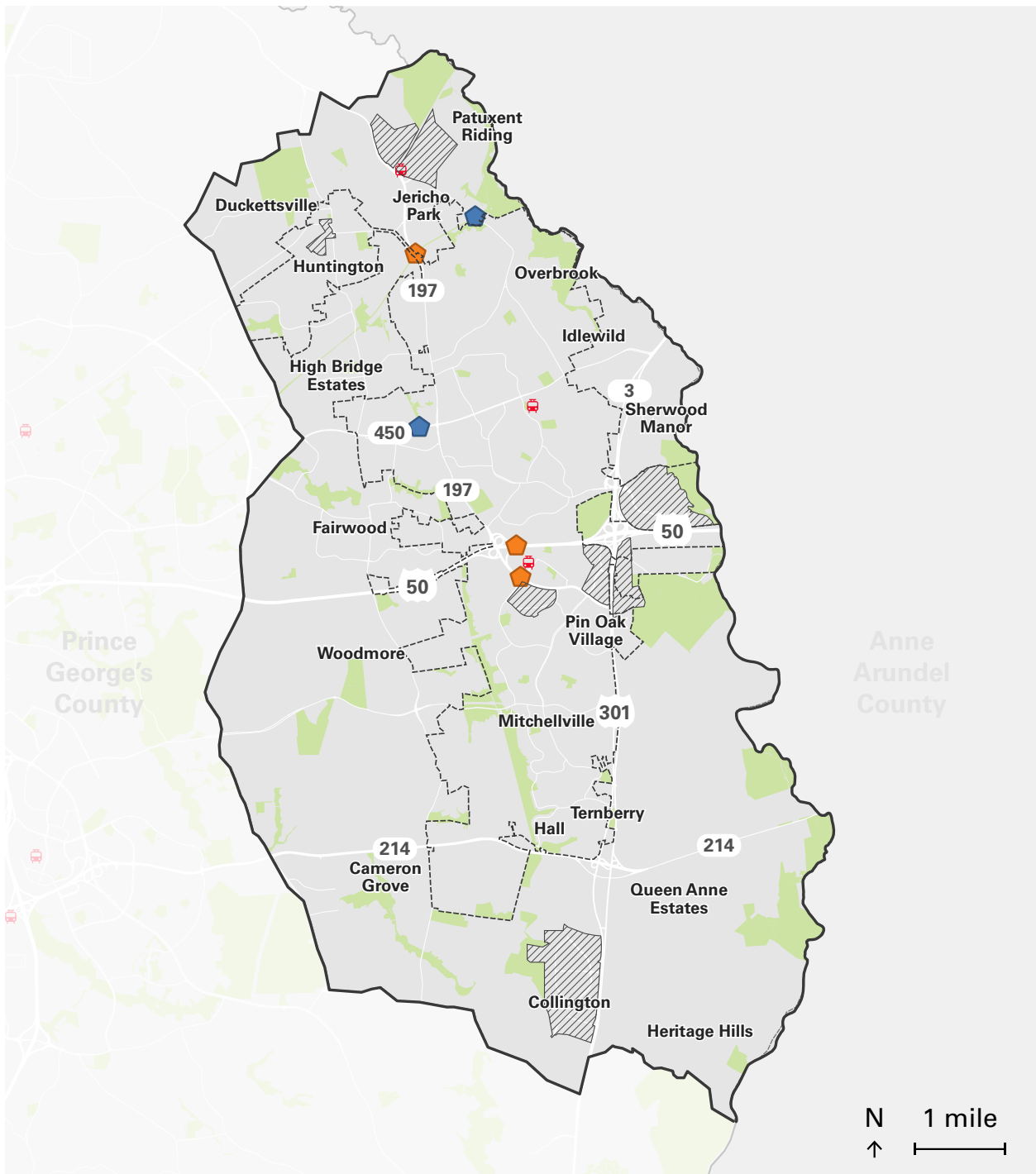


Bus Stop Walksheds

- | | | | | |
|---|---|--|---|--|
|  Quarter Mile Walkshed |  One Mile Walkshed |  Metro Bus Stop |  MARC Station |  Focus Area |
|  Half Mile Walkshed | |  Park and Ride |  City of Bowie | |

Source: Open Street Map, WMATA, M-NCPPC.

Map 55. Bicycle-Pedestrian Under and Overpasses



- Bicycle-Pedestrian Overpass
- Bicycle-Pedestrian Underpass
- Park and Ride
- Focus Area
- City of Bowie

Source: Aerial Review.

See Appendix D. Inventory of Dangerous Pedestrian Crossings on page 221 for an initial assessment of dangerous intersections within bus stop walksheds.

BICYCLING AND TRAIL INFRASTRUCTURE

The existing bikeway and trail network in Bowie-Mitchellville and Vicinity includes several trails (shared-use paths) and a limited amount of on-street bicycling infrastructure.

There are two segments of the East Coast Greenway within the master plan area. The Washington, Baltimore and Annapolis (WB&A) Trail is an 8-foot-wide paved path with a total length of 13 miles between Annapolis and Glen Burnie, MD. This well-maintained and popular trail crosses the master plan area south of BSU. At its northwestern end, the trail connects to the BWI Trail and is part of regional trail system that extends from Maine to Florida. A new trail bridge has recently been constructed to take the trail across the Patuxent River towards the Two Rivers development in neighboring Anne Arundel County. To the east, the trail brings people close to the New Carrollton Metro Station, although the final mile or so to access the station from the end of the trail is a significant obstacle.

The East Coast Greenway has also designated the sidepath running parallel to Collington Road as part of its interim route. This sidepath is in a poor state of repair with uneven surfaces, accumulations of debris, encroaching vegetation, and disappearing signs and markings. The sidepath also has a dated design. It is narrow and has sharp corners; short, severe elevation changes; non-conforming signs and markings; and outdated intersection designs.

There is a long stretch of sidepath on the north side of MD 450 that is in fair condition. This provides access to retail, commercial, and other destinations along this corridor. The path is the minimum acceptable width and has minimal crossings of side streets, access roads, and entrances to commercial centers.

There are several notable trail bridges and underpasses in the master plan area, as seen in Map 55. Bicycle-Pedestrian Under and Overpasses. There is a bridge carrying the MD 197 trail over US 50/595, and MD 197 has a trail underpass to the north of US 50/595, a bridge carrying the WB&A Trail over the highway, and a trail bridge spanning MD 197 at Northview Drive.

These bridges and underpasses provide critical connections across major regional barriers to walking and bicycling. Bowie Local Town Center is more accessible to people north of US 50 who may want to walk or bike to the shops, restaurants, or facilities as



Source: Consultant Team.

Maintenance challenges on the WB&A Trail.



Source: Consultant Team.

The WB&A Trail briefly shares the access road to the Berwyn Rod and Gun Club.

a result of the bridges across Collington Road and US 50—but the two bridges are not well connected to each other and the trails they carry do not connect well into adjacent neighborhoods.

There are internal trail and pathway systems in the Fairwood development. Additional trails in the master plan area are discontinuous and inconsistent. In addition to the major gaps in the network, existing infrastructure is not in a condition that encourages use by people riding bikes regardless of their age or ability. Many local and regional trails lack proper maintenance, which seriously compromises the safety and comfort of the infrastructure.

On-road bicycle facilities (e.g., striped bike lanes or separated bike lanes) in the master plan area are rare. For example, new sections of roadway at the intersection of Woodmore and Church Roads have included striped bike lanes, but they do not extend beyond the intersection project limits. There is an “orphaned” bike lane, 1,000 feet long and positioned to the left of a continuous right-turn-only lane, on the southbound side of Crain Highway, just north of Mitchellville Road.

TOWN

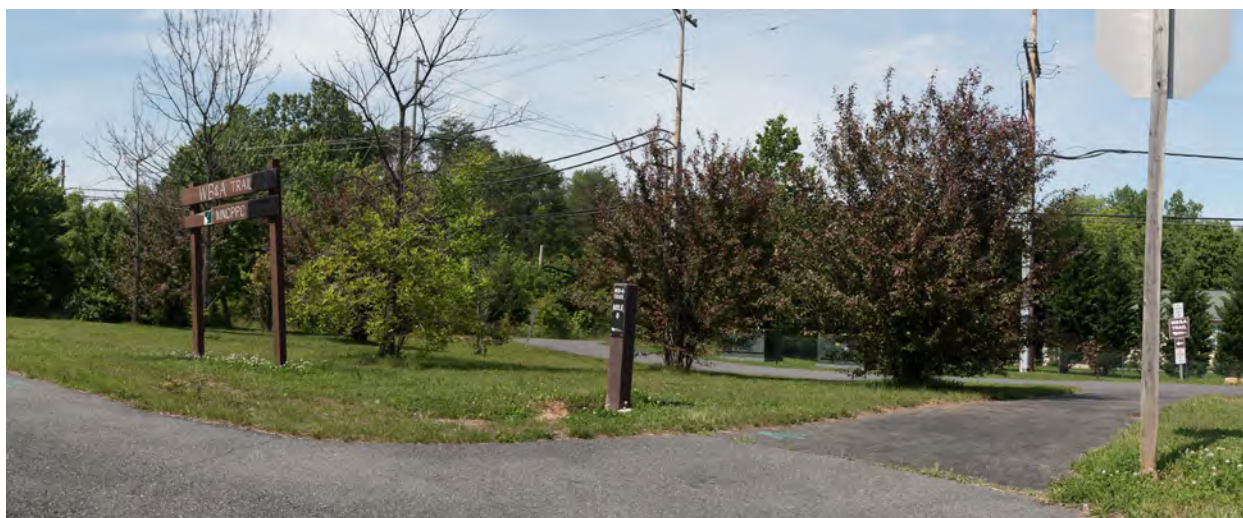


NORTH
MARYLAND
197
←



BOWIE CORPORATE CENTER





Source: M-NCPPO.

Figure 57 highlights the total number of active transportation facilities by facility type within the master plan area. Hard surface trails are the most common among facility types, followed by natural surface trails and side paths.

There are several planned facilities that include extensions for existing trails and shared lanes on low-stress roads (i.e., the Bowie Heritage Trail that will connect Old Town Bowie to Bowie State University through Jericho Park). Figure 58 highlights the total number of planned facilities per facility type within the master plan area.

The City of Bowie recently adopted an ambitious Trails Master Plan that builds on the Prince George's County trails plan.^{7,8} An extensive network of proposed trails in the City was developed (see below) and prioritized based on these criteria:

1. Link existing trails together into a safe and desirable trail experience.
2. Increase safety and connectivity from neighborhoods to trails.
3. Increase safe pedestrian and bicycle access to schools, parks, and public facilities.
4. Increase safe pedestrian and bicycle access to shopping and entertainment centers.
5. Expand opportunities to separate bicycle and pedestrian uses from vehicular traffic.
6. Increase opportunities for drawing regional trail visitors to Bowie's commercial businesses.

Figure 57. Active Transportation Facilities by Facility Type

Existing Facility Type	Length (miles)
Shared Roadway	7
Side Path	16
Hard Surface Trail	39
Natural Surface Trail	18

Source: GIS Data Catalogue, Prince George's County Planning Department.

Figure 58. Planned Facilities by Facility Type

Planned Facilities	Total Miles
Side Path	48.9
Hard Surface Trail	58.3
Natural Surface Trail	32.4
Shared Roadway	59.8
Bike Lane	14.0

Source: GIS Data Catalogue, Prince George's County Planning Department.

It is important to note that the "official" trails and bikeway plan for the County is contained in the Master Plan of Transportation (MPOT). The Strategic Trails Plan and the City of Bowie trails plan would need to be incorporated into the MPOT to have any legal weight.

⁷ Access the Trails Master Plan at: <https://www.cityofbowie.org/2410/Trails-Master-Plan>.

⁸ "Strategic Trails Plan." 2018. Prince George's County Department of Parks and Recreation. <http://www.pgpc.com/DocumentCenter/View/9124/Part-1-Plan-Summary-PDF>.

Transportation Safety

In an average year, 124 people are killed and 432 are seriously injured in traffic crashes in Prince George's County. The County, in collaboration with Maryland Department of Transportation (MDOT), Maryland Highway Safety Office (MHSO), and SHA has adopted the Toward Zero Deaths (TZD) approach and is committed to cutting vehicle-related fatalities and serious injuries in half by 2030.

Figure 59. Crash Severity by Victim Type highlights the number of crashes, by severity, involving bicyclists and pedestrians. The data highlights two important points:

- There is relatively little bicycle and pedestrian activity in the master plan area (with the exception of the WB&A Trail, which is largely separated from the roadway), which suggests the exposure rate or relative danger of bicycling and walking is quite high, even though the overall raw numbers are not shockingly high.
- A very high percentage of crashes involving pedestrians and bicyclists result in serious or fatal consequences. By contrast, a very low percentage of crashes involving motor vehicles result in these outcomes—the overwhelming majority result in minor injuries or property damage only.

CRASHES BY LOCATION

More than two-thirds of bicycle crashes between 2015 and 2018 occurred at intersections. This is a high number and suggests that intersection designs featuring multiple through lanes and turn lanes, coupled with unprotected left and right turning traffic, are particularly challenging and dangerous for people on bikes. The fact that more than 40 percent of pedestrian crashes do not record a location makes it very difficult to draw conclusions about counter measures.

The overwhelming majority of bicycle crashes occur during daylight; a significantly higher percentage of pedestrian crashes happen after dark.

A high percentage of bicycle crashes occur at intersections that are signalized (in other words, intersections where there is a traffic light or crossing signal). The number for pedestrians is lower. It should be noted that this figure does not account for the 41 percent of crashes for which location information is unavailable.

There is limited crash data available for the master plan area. Map 56. Vehicle Crashes (2015–2019) highlights the raw number of crashes (all severities) within Bowie-Mitchellville and Vicinity between 2015 and 2019. Unsurprisingly, there are high concentrations of crashes at intersections, particularly the busier intersections along US 301, MD 197, and MD 450.

Figure 59. Crash Severity by Victim Type

Severity Group	Bicycle Crashes	Percent of all Bicycle Crashes	Pedestrian Crashes	Percent of all Pedestrian Crashes
Killed or Serious Injury	3	12%	21	19%
Possible Serious Injury	9	35%	44	39%
Injury or Property Damage Only	14	54%	48	42%
Total	26	100%	113	100%

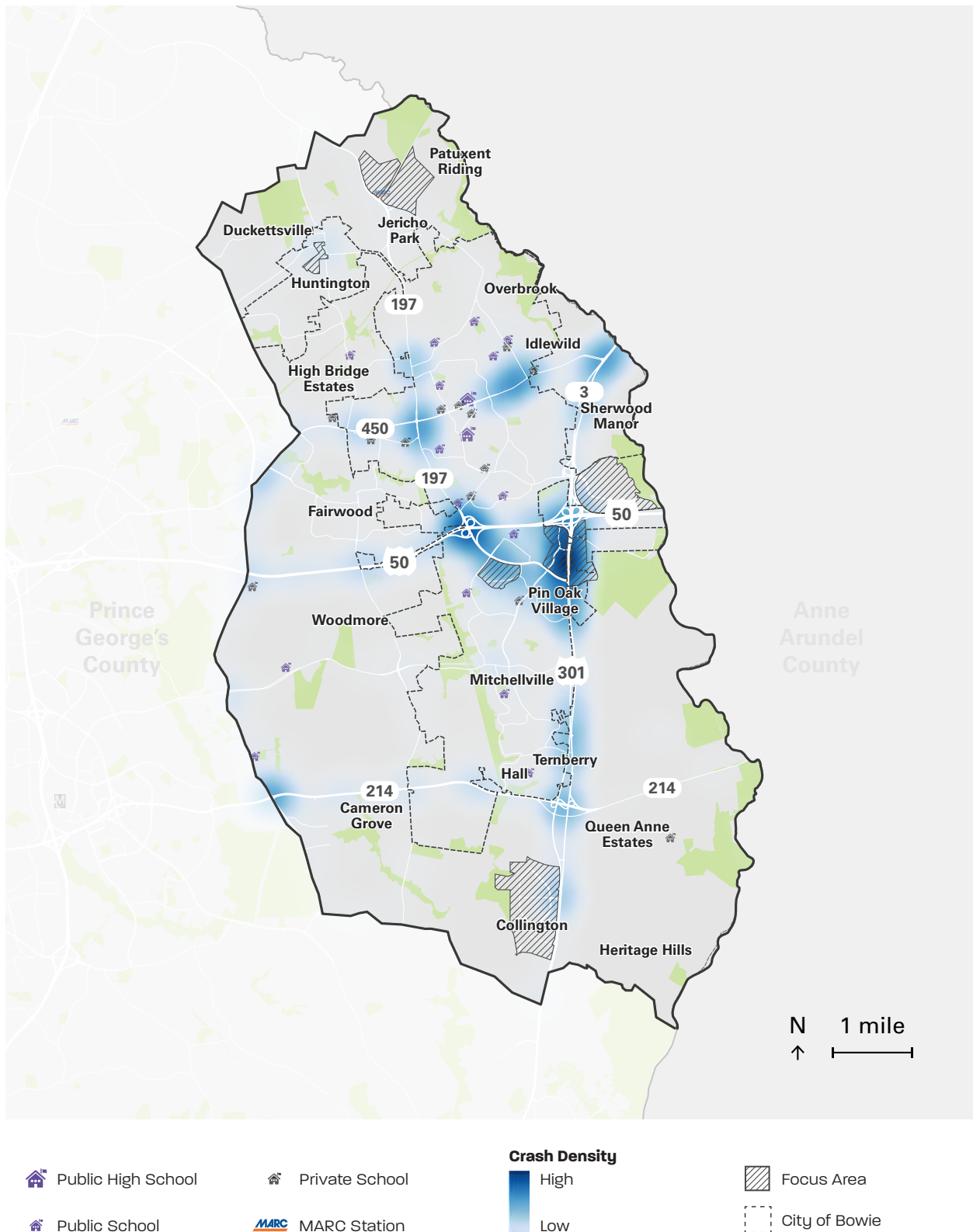
Source: Prince George's County Planning Department.

Figure 60. Bicycle and Pedestrian Crashes by Location on the Roadway

	Bicycle Crashes	Percent of all Bicycle Crashes	Pedestrian Crashes	Percent of all Pedestrian Crashes
Intersection Crash	18	69%	29	26%
Non Intersection	2	8%	27	24%
Residential Drive	1	4%	1	1%
Not Applicable	4	15%	10	9%
Unknown	1	4%	46	41%
Total	26	100%	113	100%

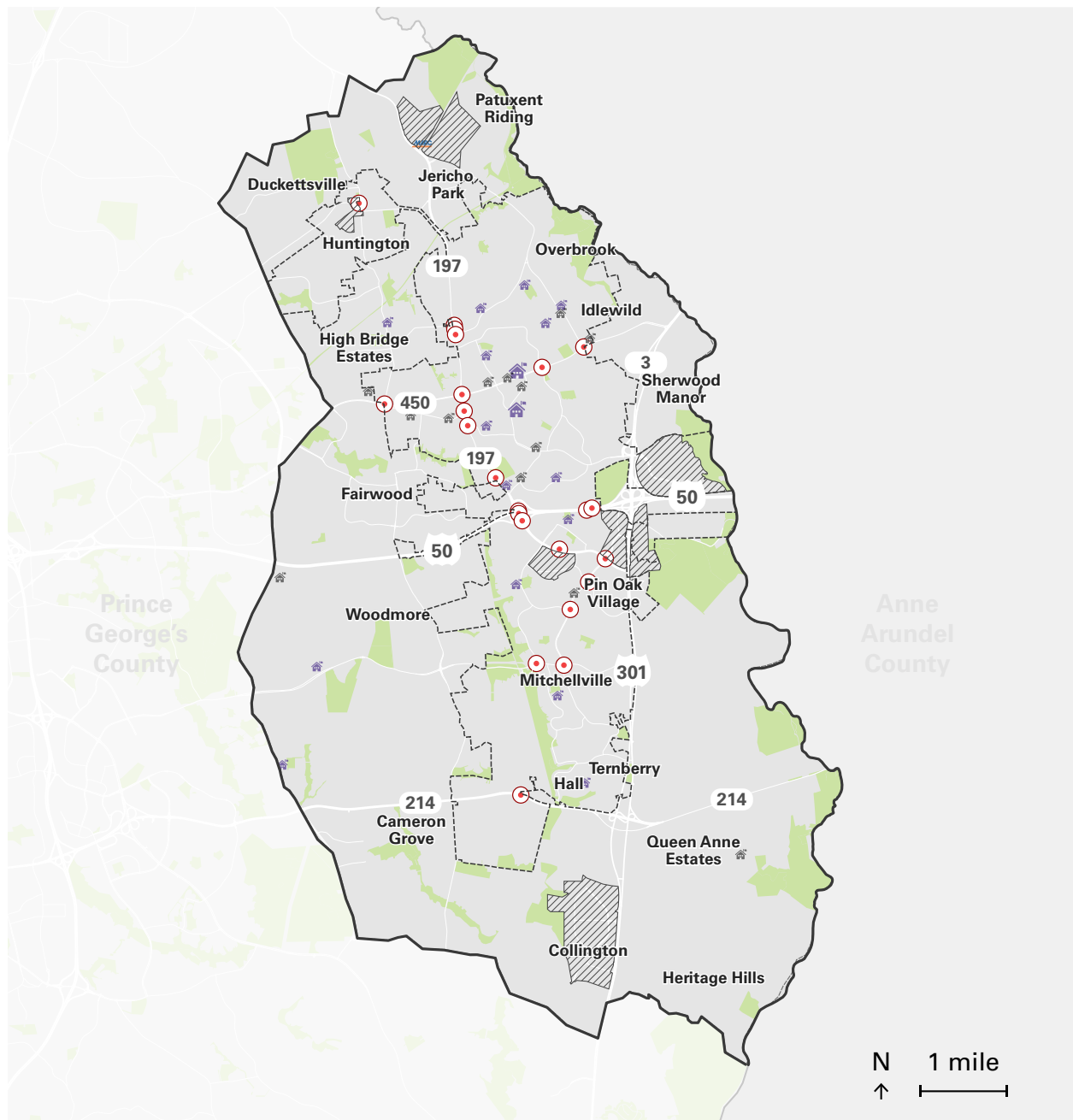
Source: Prince George's County Planning Department.

Map 56. Vehicle Crashes (2015–2019)



Source: State of Maryland.

Map 57. Top 25 Most Dangerous Intersections Measured by Number of Vehicle Crashes (2015–2019)



- | | | | |
|--------------|--------------------|----------------|---------------|
| Intersection | Public High School | Private School | City of Bowie |
| MARC Station | Public School | Focus Area | |

Source: State of Maryland.

Map 57. Top 25 Most Dangerous Intersections Measured by Number of Vehicle Crashed (2015–2019) shows that more than half of the top 25 crash locations are along MD 197.

Between 2015 and 2019, 139 out of 5,894 total crashes involved people on bikes or on foot. Seven of the 139 crashes resulted in a fatality. In addition, there were 17 people who suffered incapacitating injuries and another 53 people with a possible incapacitating injury.

Map 58. Pedestrian Involved Crashes by Severity (2015–2019) shows the location of pedestrian crashes in the master plan area.

While these crashes are dispersed along all the major arterials and high-density areas, there are a number of locations where the concentration of crashes is notable; for example, in and around the intersection of Church Road and US 50, and within the Bowie Town Center and adjacent commercial centers, the pedestrian crashes are much more dispersed than motor vehicle crashes. Based on initial observations, they are happening in locations with common roadway characteristics (e.g., multiple lanes, posted speeds of 35 mph or higher, and no signalized crosswalk).

There have been three fatal or serious injury crashes on Church Road in the vicinity of US 50. Two of them occurred near the Freeway Airport, and a third, that caused the death of a pedestrian, was at the intersection with Fairview Vista Road. Church Road, at this location, is a wide, four-lane road with a marked, uncontrolled intersection with Fairview Vista Road. It is easy to witness a steady flow of vehicles exceeding the posted speed limit by more than 20 mph on Church Road at this location. The posted speed along Church Road in this area is 30 mph but radar speed display signs document speeds as high as 54 mph in some cases.

MD 197 (Laurel Bowie Road) between Old Chapel Road and US 50 has experienced several crashes involving pedestrians in recent years, at least two of which were fatal or caused serious injury. The Old Chapel Road/MD 197 intersection has several features

that make pedestrian crashes very predictable at this location. There is a strip shopping center on one side of a busy, high-speed road and a thriving residential area on the other side of the road. There are bus stops along the main highway with infrequent bus service. There is one signalized intersection with marked and controlled pedestrian crossings—the next closest controlled crossing is two-thirds of a mile to the south and several miles to the north.

MD 450 is also a hotspot for crashes, particularly at the Bowie Marketplace area, which recorded a cluster of crashes, and the intersection with Belair Road where there was a fatal or serious injury crash. The Belair/MD 450 intersection features long crossing distances that expose pedestrians to high risk, in part due to the wide turning radii that encourages speeding.

Another obvious hotspot for crashes that involved pedestrians is the Bowie Town Center and surrounding commercial centers. The higher density of people and traffic in this area, in addition to the concentration of businesses, increases potential for pedestrian volumes crossing at the main intersections. Most pedestrian crashes, especially those that caused a fatality or serious injury, took place in this area.

Three specific intersections are a major concern: Mitchellville Road at MD 197 (Collington Road), Northview Drive at Collington Road, and Excalibur Road between Crain Highway and Collington Plaza.

Figure 61. Bicycle and Pedestrian Crashes by Lighting Conditions on the Roadway

	Bicycle Crashes	Percent of all Bicycle Crashes	Pedestrian Crashes	Percent of all Pedestrian Crashes
Dark	2	8%	37	34%
Dusk/Dawn	2	8%	7	6%
Daylight	22	85%	64	58%
No Data	0	0%	2	2%
Total	26	100%	110	100%

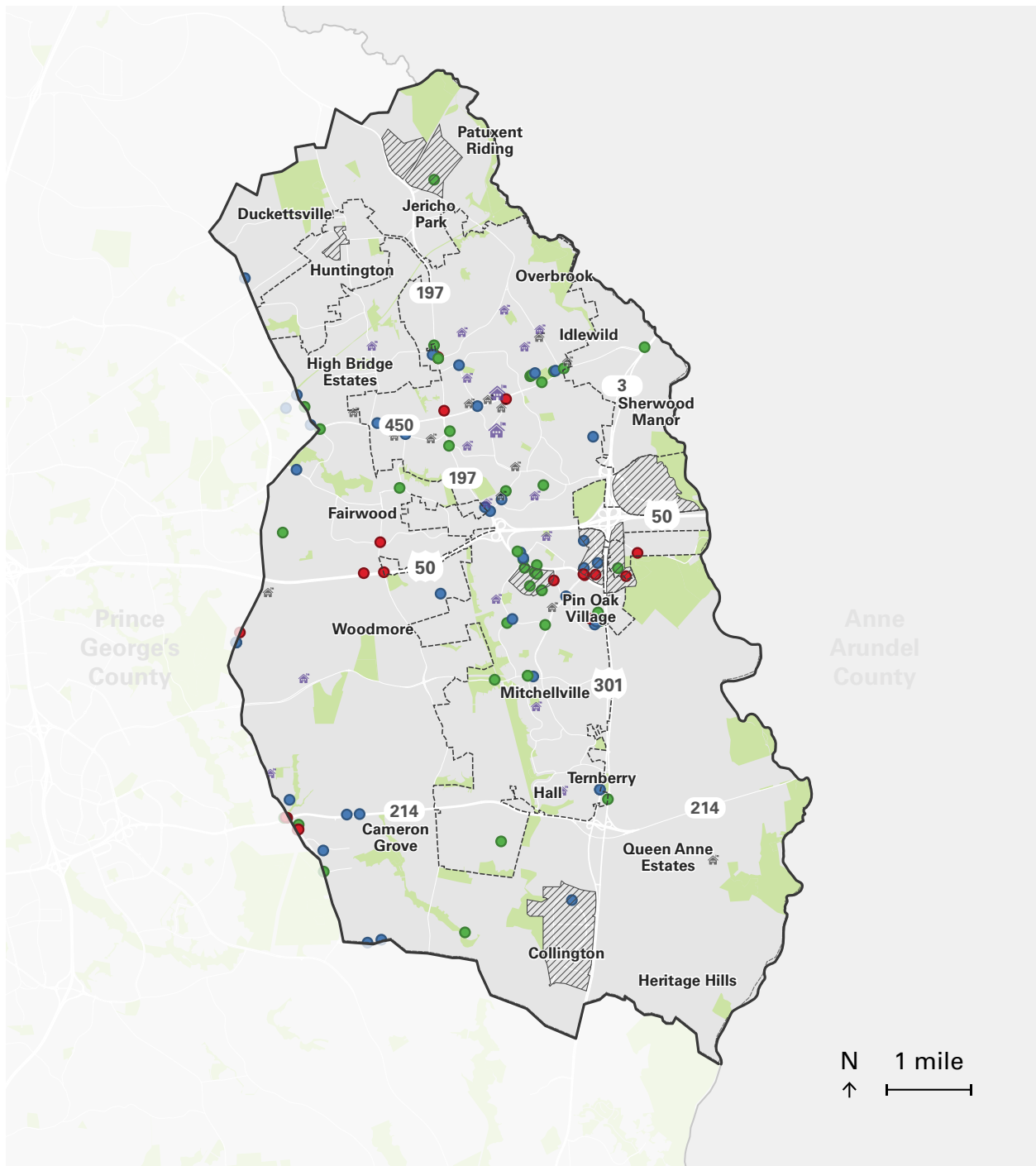
Source: Prince George's County Planning Department.

Figure 62. Bicycle and Pedestrian Crashes by Intersection Signalization

Signalized	Bicycle	Bicycle %	Pedestrian	Pedestrian %	Total
No	4	22%	11	38%	15
Yes	14	78%	18	62%	32
Total	18	100%	29	100%	47

Source: Prince George's County Planning Department.

Map 58. Pedestrian Involved Crashes by Severity (2015–2019)



- | | | | |
|----------------------------------|----------------------|------------------|-----------------|
| ● Fatality or Serious Injury | ● Minor or No Injury | 🏫 Public School | ▨ Focus Area |
| ● Possible Incapacitating Injury | 🏫 Public High School | 🏠 Private School | ⋯ City of Bowie |

Source: State of Maryland

Discussion of Challenges and Opportunities

CAR DEPENDENCE

Bowie-Mitchellville and Vicinity is a quintessential American post-war suburban community that has developed around the automobile. Land use and planning decisions, as well as significant transportation investments over the years, have built a community in which driving—usually alone—is the default for virtually every trip regardless of distance or purpose. There is very little persistent traffic congestion, there is an ample supply of free parking, and gas is cheap.

These factors present some advantages to local drivers. However, there are significant downsides to this state of affairs, and it stands in direct contrast to the stated desires of the community as captured in prior planning documents. Land use and zoning policies for the past 20 years envisage a higher density of development in the community, with more mixed land uses and walkable, bike-friendly areas. Car dependence results in a number of related challenges, including costs to car owners/drivers, safety, environmental impacts, and health impacts.

- **Environmental Impacts:** Automobiles are the primary reason the transportation sector contributes up to 30 percent of greenhouse gas emissions in the United States; vehicle exhausts continue to cause dangerous levels of air pollution, traffic noise is a growing problem, and roads and parking lots are a major stormwater management headache.
- **Health Impacts:** Auto-dependence contributes massively to a sedentary lifestyle and to mental health challenges, both of which are a major threat to our health system. Obesity, cardiovascular and heart disease, diabetes, and a wide variety of cancers are linked to a lack of physical activity caused in part by a lack of daily physical activity such as walking and bicycling.
- **Road Conditions and Congestion:** While drivers may experience the frustration of minor delays on area roads at certain times of the day, the lack of any alternative means of transportation leaves area residents at the mercy of congestion hotspots throughout the metropolitan region. Bowie residents have longer-than-average car commutes in part because they drive on busy and congested roadways closer to Washington, D.C.; in busy suburbs adjacent to the Beltway; or on the Beltway itself.

MIXED-USE, MULTIMODAL DEVELOPMENT

Current land use patterns in Bowie-Mitchellville and Vicinity create challenges to multimodal transportation, as residential areas are largely cut off from commercial and employment areas for reasonable access by bicycle or foot. In the past, land uses have been rigidly separated to avoid mixed-use development—this, coupled with the hierarchical network of major roads that creates significant physical barriers to walking and bicycling, results in the need for longer, more roundabout trips for even the simplest purchase or activity. Mixed-use development, increasingly a priority for the County and the master plan area, presents an opportunity to create more opportunities for active transportation, and increase connectivity between where residents live, work, and play.

Principles for making long-term decisions to move Bowie-Mitchellville and Vicinity closer to the vision of a more mixed-use, multimodal community include:

- Making land use and transportation decisions together.
- Focusing on increasing access for people to jobs, shopping, schools, recreation, and other services.
- Building a safe system for all transportation users regardless of age, ability, and choice of travel mode.
- Improving resiliency and redundancy in the system by providing more realistic and attractive choices to driving alone.



Source: Consultant Team.

Church Road: actual speeds exceeding posted speed.

Mixed-use development, increasingly a priority for the County and the master plan area, presents an availability to create more opportunities for active transportation, and increase connectivity between where residents live, work, and play.

MOBILITY AND SENSE OF PLACE

From a transportation perspective, the City of Bowie and surrounding area is in a challenging position. On the one hand, it is a well-established, mature, and affluent community with affordable housing and relatively easy access by car to a great many destinations. On the other hand, those destinations are rarely in Bowie-Mitchellville or Vicinity and residents often look elsewhere at examples of things or places to which they have aspirations. There is transit service in the area but it is very limited; people prefer to drive to New Carrollton or Largo to access Metro and more distant regional destinations.

This is a challenge faced by suburban communities all over the country. A recent planning report by the Chesterfield County Planning Commission, a sprawling suburban and rural county adjacent to

Richmond, Virginia, highlights the need to create more of a sense of place in suburbia. Public outreach activities found that 60 percent of Richmond-area millennial respondents said they preferred “denser development and easy access to rapid transit, with shopping, restaurants, offices, and homes close by.” More than two-thirds of millennials travel into Richmond for recreation due to “the clustering of venues and the ability to move between them without a car.” In the same survey, more than 60 percent of participants said that bike lanes and sidewalks are more important than new car lanes. An article in the Richmond Magazine summed up the dilemma in its title: “Chesterfield wants to attract millennials. First, it’s got to build sidewalks.” The same could be said of Bowie-Mitchellville and Vicinity.



Source: M-NCPPC.



Source: M-NOPPC.

Participants at Zumbathon 2019 in Bowie.

2.6 Community Heritage, Culture, and Design



The Bowie-Mitchellville and Vicinity master plan area is rich in history and culture.

The historic Town of Bowie has its origins as a railroad settlement in the 1870's, at the juncture of the Baltimore and Pacific Railroad's new line through Prince George's County into southern Maryland, and its spur line into Washington, D.C.¹ Originally called Huntington City, the town was renamed to Bowie in honor of Oden Bowie, a former Maryland governor and then-president of the Baltimore and Pacific Railroad Company. Although the Bowie railroad station was closed and moved to Bowie State University in 1989, Old Town Bowie remains an important historic site for the master plan area. The original railroad station and settlement has a small concentration of notable historic landmarks. It features a tourism office and welcome center and the Bowie Railroad Museum, which houses the National Railroad Historical Society's Martin O'Rourke Railroad Research Library.

African American communities play a central role in the history of Bowie-Mitchellville and Vicinity. Fletchertown, located just south of Old Town Bowie (which is itself recognized as a historic African American community), and Duckettsville (1.5 miles away to the northwest) are examples of historic communities settled at the turn of the twentieth century by African American families. Many families in these farm communities were farm workers or small farmers, while others worked for the railroad around which Bowie was founded and developed.

The master plan area also boasts many sites from the Mid-century modern movement in architecture. After World War II, Bowie-Mitchellville and Vicinity came to be one of the most important suburbs in the Washington metropolitan region. Bowie-Mitchellville and Vicinity's mid-century modern development was anchored by the Levitt & Sons' suburban community at the site of the Belair Mansion, which began construction in 1957.

1 "Prince George's County Tricentennial."1996. <http://www.pghistory.org/PG/PG300/obowie.html>

How can future planning efforts uphold and enhance the unique character of Bowie-Mitchellville and Vicinity?

The master plan area's existing historic and cultural assets can be leveraged in future planning and urban design efforts. Bowie-Mitchellville and Vicinity is home to many artists and hosts an annual public festival, Bowiefest, to celebrate the culture and talents of local residents. The Anacostia Trails Heritage Area, which has over 9,500 acres within Bowie-Mitchellville and Vicinity, presents communities with the opportunity to apply for state grants to promote heritage and tourism related to the trail system. Finally, through coordinated long-range planning, Bowie-Mitchellville and Vicinity can position Old Town Bowie or Bowie Local Town Center as future centers of culture and entertainment.

This report considers a variety of questions related to culture and heritage in the master plan area, including: where are the most treasured cultural and historic sites and features within the Bowie-Mitchellville and Vicinity master plan area? What are the historic or scenic routes and corridors? How can future planning efforts uphold and enhance the unique character of Bowie-Mitchellville and Vicinity? And finally, what are the challenges and opportunities to preserving and capitalizing upon the master plan area's history and culture?

Current Centers of Community Heritage

What are the current centers of community heritage in Bowie-Mitchellville and Vicinity? How accessible are they? Are any of them under threat? Geographically, are there any trends or clusters related to the way these sites are distributed within the master plan area?

The master plan area has a rich African American history, and several properties are recognized as having historic significance in this regard. There are 10 historic African American properties in the master plan area, including historic school sites, churches, residences, and two historic African American communities. Old Town Bowie is recognized as a historic African American



Source: M-NCPPC.

Bowie Railroad Museum.

HISTORIC SITES AND FEATURES IN BOWIE-MITCHELLVILLE AND VICINITY

- 2 historic African American communities
- 10 historic African American properties
- 20 mid-century modern structures have been identified
- 31 cemeteries
- 48 historic sites and resources, 10 of which are included in the National Register of Historic Places

community, as is the community of Fletchertown, a rural residential subdivision established in the 1890s, located about a mile to the south, and centered on Old Fletchertown Road.^{2,3}

The master plan area also includes several mid-century modern buildings that Prince George's County identified in an architectural survey.⁴ These structures, dating 1941–1978, reflect the County and master plan area's twentieth century history as an important suburban community.⁵

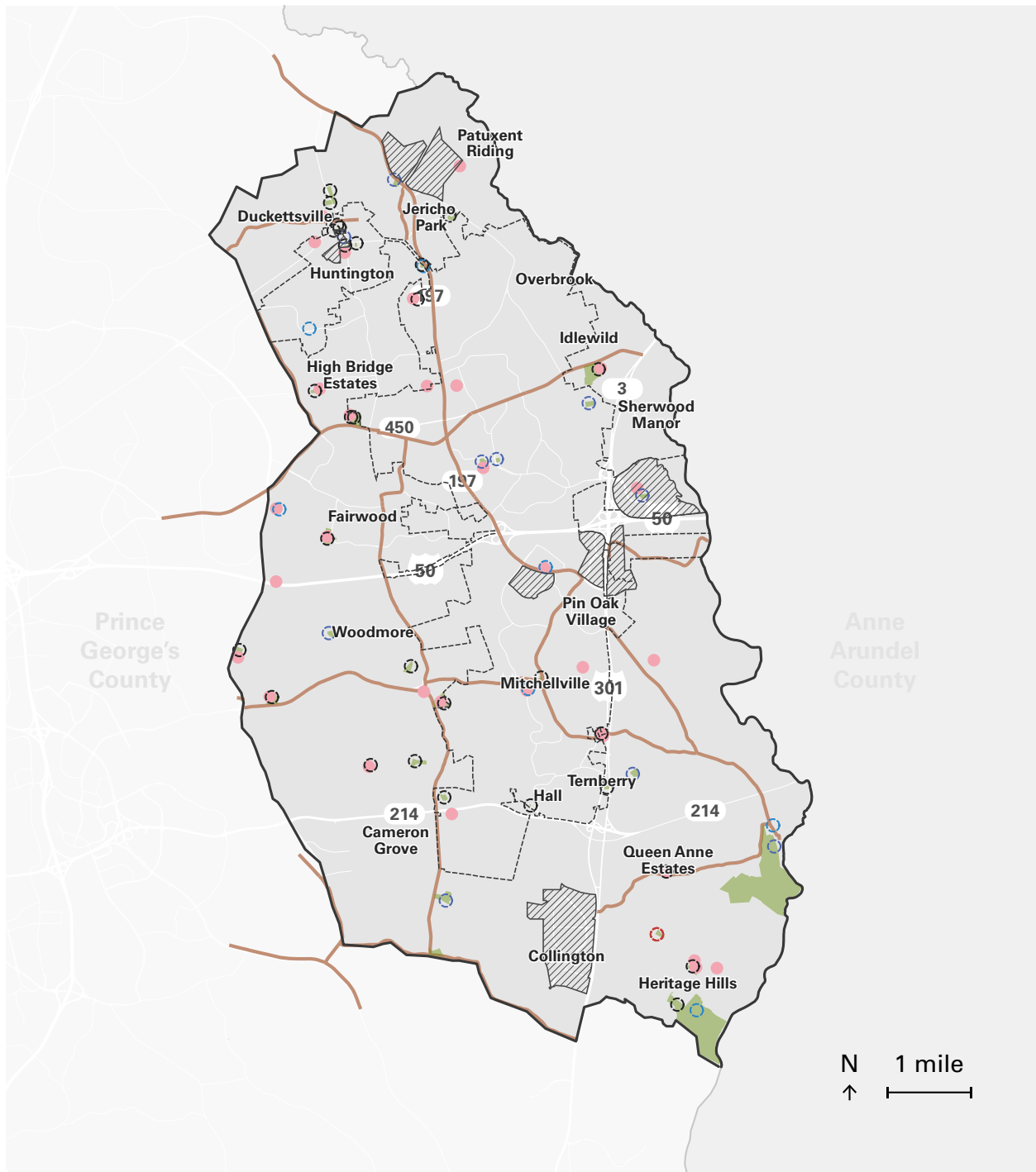
² Historic African American Communities are identified by the Prince George's County Planning Department based on historic preservation files. See: <https://gisdata.pgplanning.org/metadata/#>.

³ Historic site data from the Prince George's County Planning Department, accessed via PG Atlas. Historic data was last updated in December 2019. More information can be found in the 1992 Historic Sites and Districts Plan for Prince George's County.

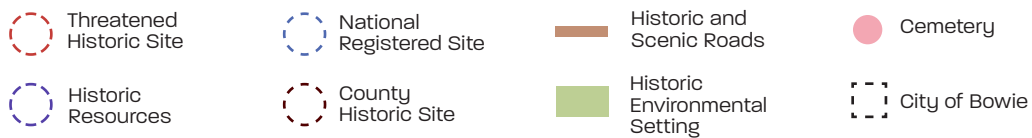
⁴ The survey was last updated in 2019. A table of properties can be found here: <https://www.mncppc.org/DocumentCenter/View/11926/Prince-Georges-Table-of-Properties>.

⁵ For more on Prince George's Modern, see: <https://www.mncppc.org/DocumentCenter/View/631/Prince-Georges-Modern-Context-Narrative-PDF>.

Map 59. Historic Sites and Corridors in Bowie-Mitchellville and Vicinity

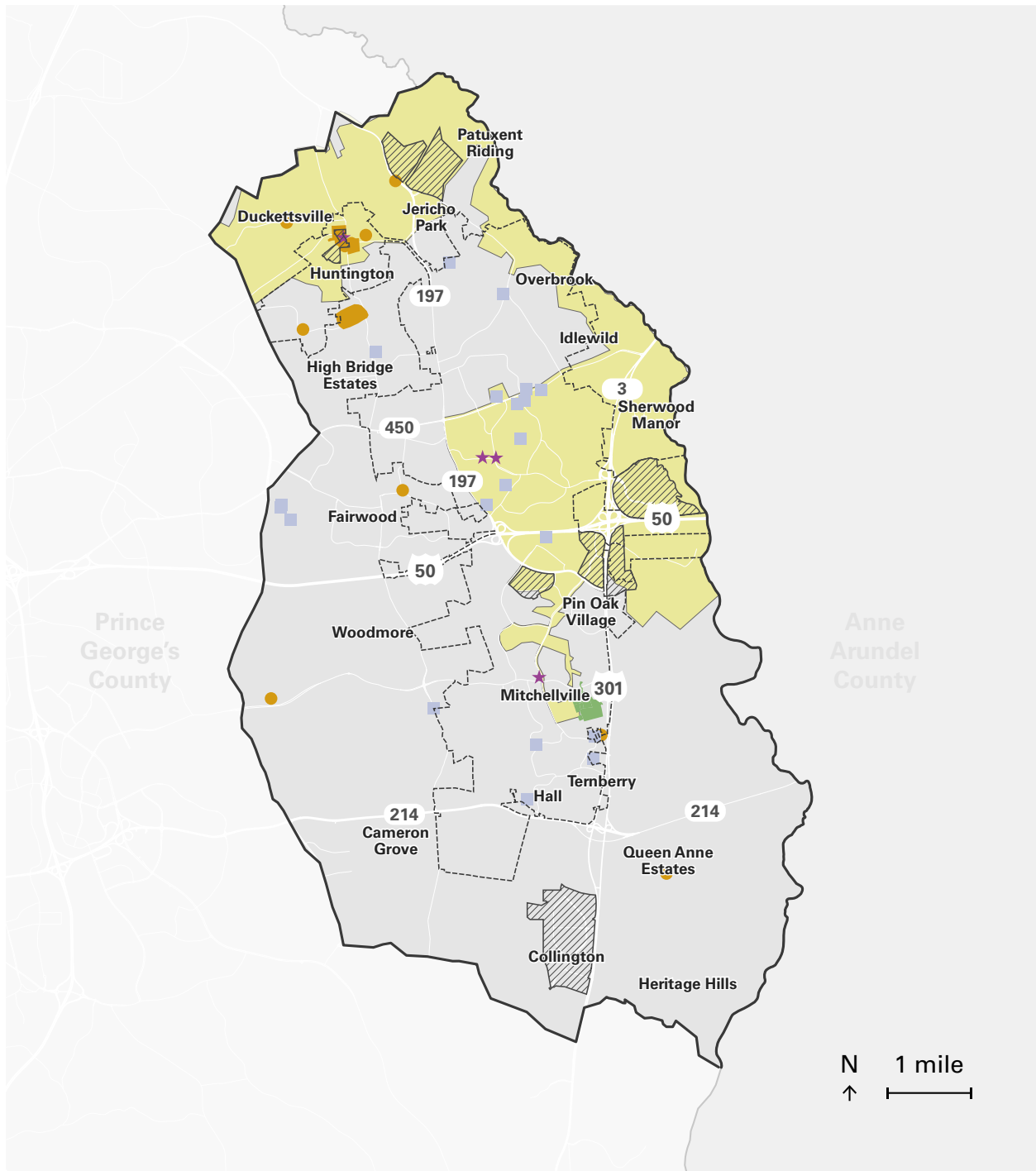


Detailed asset inventory can be found in **Appendix F. Asset Inventories: Community Heritage and Culture** on page 238.

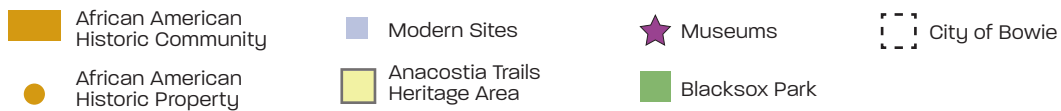


Source: GIS Data Catalogue, Prince George's County Planning Department.

Map 60. Historic and Cultural Features in Bowie-Mitchellville and Vicinity



Detailed asset inventory can be found in **Appendix F. Asset Inventories: Community Heritage and Culture** on page 238.



Source: GIS Data Catalogue, Prince George's County Planning Department.

One clear area of historic significance to the master plan area is Old Town Bowie, known for the Bowie Railroad Museum and the Old Town Bowie Welcome Center. Although Old Town Bowie contains many historic sites either designated by the County or listed in the National Register, the area is not designated as a local historic district or listed in the National Register.

HISTORIC SITES AND FEATURES

Map 60. Historic and Cultural Features in Bowie-Mitchellville and Vicinity demonstrates the range of historic sites and features in the master plan area. Each can present a challenge or an opportunity in regard to development and planning. In some cases, a site or resource may create the opportunity for heritage tourism, which could be supported by the various County, state, and federal level programs and grants. In other cases, they may present special planning considerations, such as evaluation of the effect on a historic site by the Historic Preservation Commission (HPC). In other cases, there may be no planning policies or regulations associated with a feature, yet its presence should still be considered an asset to the master plan area (as in the case of recognized African American communities and mid-century modern structures).

The Anacostia Trails Heritage area covers more than 9,500 acres within the master plan area, including the land around three of the five central focus areas (Old Town Bowie, Bowie State MARC Station, and Bowie Local Town Center). This network of trails connects to important historic, cultural, and recreational sites in the County, and presents communities with the opportunity to apply for state grants to promote heritage and tourism related to the trail system. The master plan area features several museums that bring visitors into contact with Bowie-Mitchellville and Vicinity's history. This includes the Railroad Museum in Old Town Bowie; Belair Mansion, which interprets life of Bowie residents in the 1740s–1940s; and Belair Stables Museum, which highlights the area's thoroughbred horse breeding and racing legacy.⁶ The National Capital Radio and Television Museum is housed in a storekeeper's house built in 1906.

Some sites of historical significance may not be recognized as historic sites or resources by the County or National Register but carry great significance to local or regional history. For instance, Blacksox Park on Mitchellville Road is a baseball park where African American sandlot baseball teams played in



Source: M-NCPPC.

Hazelwood Historic Site (top); Belair Mansion and Cemetery, built in 1745 (bottom).

⁶ "Belair Stable Museum | Bowie, MD—Official Website." <https://www.cityofbowie.org/289/Belair-Stable-Museum>.

the 1930s–1970s, including the Homestead Grays, a professional Negro League team.⁷

One County-designated Historic Site in the master plan area is currently on the HPC Properties of Concern list—Goodwood, a historic property located in the Rural/Agricultural Reserve to the east of US 301, near the southern limit of the master plan area. Built in 1799, Goodwood sits on 15 acres and is the only historic rural villa in the Federal style in Prince George's County.⁸

Appendix E. Table of Historic Designations on page 223 provides brief descriptions of each of the types of historic features described in this section of the report, and lists planning considerations for each.

HISTORIC CORRIDORS

Designated by the County Council, “scenic and historic roads are important resources that need to be protected and preserved for enjoyment both today and in the future.”⁹ Scenic and historic roads are designated through a master/sector plan according to core sets of criteria. Historic roads must align with historic landscapes and context through such criteria as views of historical sites, structures, and landscape patterns, and the presence of historic villages and farmstead groupings. Scenic roads are determined to have substantial amounts of scenic views through natural or man-made features, including forests, woodlands, meadows, scenic topography, historic sites and structures, roadway features such as curving or rolling, and more.¹⁰ Any development of these roads (i.e., road improvement) or adjacent to them must be evaluated by M-NCPPC’s Countywide Planning Division, Environmental Planning Section for preservation or enhancement. The County strives to preserve the historic views, natural features, landscapes, and sites and structures along and near historic roads.¹¹



Source: M-NCPPC.

To preserve the viewsheds and character of scenic and historic roads in the master plan area, in accordance with County regulations, development within these corridors must be carefully evaluated.¹² Two of the opportunity area corridors profiled in this report are designated as historic roads by the County: MD 450 (Annapolis Road) and MD 197 (Laurel Bowie Road/Collington Road).

Future land use planning and development in these corridors must take into account this historic designation and the need to preserve historic views, landscape patterns, and sites and structures.

The Washington, Baltimore and Annapolis (WB&A) Electric Railway Bridge traverses MD 197, and the D.S.S. Goodloe House, a National Register site, also falls along this historic corridor. The Fair Running and Duvall Family Cemetery also lies along MD 197. MD 450 features the historic Holy Trinity Church, cemetery, and rectory.

There is a cluster of mid-century modern structures along the historic MD 450 corridor including the Bowie High School and the Bowie Volunteer Fire Department. The 2015 *Prince George's Modern* survey includes sites in the mid-century modern architectural style, which date between 1941–1978.¹³

7 The history of the Blacksox Park is discussed in the Prince George's County Parks Historic Sites brochure: <http://pgparks.com/DocumentCenter/View/4599/Historic-Sites-Brochure-PDF?bidId=>.

8 “Historic Sites.” n.d. M-NCPPC. mncppc.org/planning/publications/PDFs/237/Historic%20Sites%20pp.081-140.pdf.

9 “2009 Approved Countywide Master Plan of Transportation.” 2009. The Maryland-National Capital Park and Planning Commission.

10 Subtitle 23 of Prince George's County code, Roads and Sidewalks, establishes the criteria and guidelines for historic and scenic roads.

11 2009 Approved Countywide Master Plan of Transportation. 2009. The Maryland-National Capital Park and Planning Commission.

12 See Subtitle 23, Roads and Sidewalks at: https://library.municode.com/md/prince_george's_county/codes/code_of_ordinances?nodeId=PTIITI7PULOLAPRGECOMA_SUBTITLE_23ROSI.

13 Read more about the history of Prince George's modern architecture at: <https://www.mncppc.org/DocumentCenter/View/631/Prince-Georges-Modern-Context-Narrative-PDF>.



Source: M-NCPPC.

Bowie High School, a mid-century modern building within the MD 450 Corridor.

OLD TOWN BOWIE CLUSTER: HISTORIC RAILROAD TOWN HISTORY

The greatest concentration of historic sites and features in the master plan area is in Old Town Bowie and its vicinity, where there is a cluster of historically relevant sites and designations.

Though Old Town Bowie contains the highest concentration of historically significant properties and significant history for the master plan area and region, a 2009 historic district survey conducted by M-NCPPC found that the district had lost too much of its historic integrity to be recommended either as a National Register Historic District or as a Prince George's County Historic District. The survey cites the encroachment of nearby suburban development, twentieth century infill, and the construction of new subdivisions. Few original historic structures remain in Old Town Bowie for it to garner County or national recognition as a complete historic district, and the report notes a loss of historic design, setting, and feeling.¹⁴

The first phase of the Bowie Heritage Trail—proposed in 2009 as part of the update to the Bowie Trails Master Plan—was completed in 2019, connecting 10th Street and 12th Street in Old Town Bowie. A second phase of the trail was removed from the budget last year due to fiscal concerns.¹⁵

MID-CENTURY MODERN HISTORY: MD 450 CORRIDOR AND BELAIR CLUSTER

Another significant era in the history of Prince George's County and the master plan area is that of suburban development post-World War II, which was marked by the arrival of the Levitt & Sons development of Belair. The Belair development was constructed between 1957 and 1965 after William Levitt purchased the historic Belair Estate with plans to develop a suburban community fashioned after his planned subdivisions in New York, New Jersey, and Pennsylvania. Levitt's acquisition of the 2,200-acre estate coincided with the naming of Bowie as a city.

14 Huntington/Bowie (71B-002)." 2009. M-NCPPC. <http://www.mncppcapps.org/planning/HistoricCommunitiesSurvey/CommunityDocumentations/71B-002%20Huntington/Pg%2071B-002,Huntington-Bowie%20Community%20Survey.pdf>.

15 <https://www.capitalgazette.com/maryland/bowie/ac-cn-bowie-trails-0103-story.html>.

Development of the Belair subdivision accompanied and contributed to the County's growth as one of the region's fastest-developing suburbs.¹⁶ This growth was buoyed by the construction of new roads and highways, including the opening of the Capital Beltway in 1964, the large booming federal government in nearby Washington, D.C., and wider trends of suburbanization and "White flight" from cities during this era.

The Prince George's County Planning Department identifies and tracks the location and condition of structures built during the mid-century modern period (1941–1978) that retain the architectural integrity and character of the era. Some, though not all, of these structures are designated as historic sites and are thus subject to HPC review for modifications and new construction.¹⁷ Some of the original model homes for the Levitt & Sons development, such as the "Country Clubber," are recognized for their architectural and historic significance.

ARCHEOLOGICAL SURVEY SITES

In addition to historic sites and clusters, the master plan area includes various archeological survey sites that have required, and may continue to require, archeological evaluation for development. Most archeological survey sites in the master plan area as of 2019 are located in Established Communities.

Within the focus areas, the Melford Property archeological survey site makes up a large portion of the northeast subarea of the Bowie Local Town Center. The conceptual site plan for the live/work mixed-use site of Melford Village was reviewed by HPC in 2013 for impacts on the historic character of the Melford Historic Site.¹⁸ Melford is a historically and architecturally significant site, designated as a Prince George's County Historic Site and listed in the National Register of Historic Places. As such, any proposed development within or adjacent to the environmental setting of the site is subject to review by the County HPC for a recommendation of approval, denial, or approval with conditions to the Planning Board or the Prince George's County



Source: M-NCPPC.

Melford Historic Site.

District Council. Melford Village was designed to highlight the Melford plantation house and grounds, and the Duckett Family Cemetery as "community assets and design focal points."

Additionally, a large cluster of archeological survey sites is adjacent to the Collington Trade Zone and includes the Willow Pond Property, the Oak Creek Club, Locust Hill, and the Willowbrook Property—from which the Bowie Family Cemetery was moved to accommodate development at the site.¹⁹ In the Established Communities, there are a number of archeological sites grouped along the US 50 Corridor, including the Pleasant Prospect property, which is the site of a plantation complex owned by the family of Richard Duckett from the 1720s to 1790s. Artifacts collected at this site are highly regarded by researchers in the region looking to understand the late colonial period.²⁰

¹⁶ M-NCPPC. 2015. "Prince Georges Modern." <https://www.mncppc.org/DocumentCenter/View/631/Prince-Georges-Modern-Context-Narrative-PDF>.

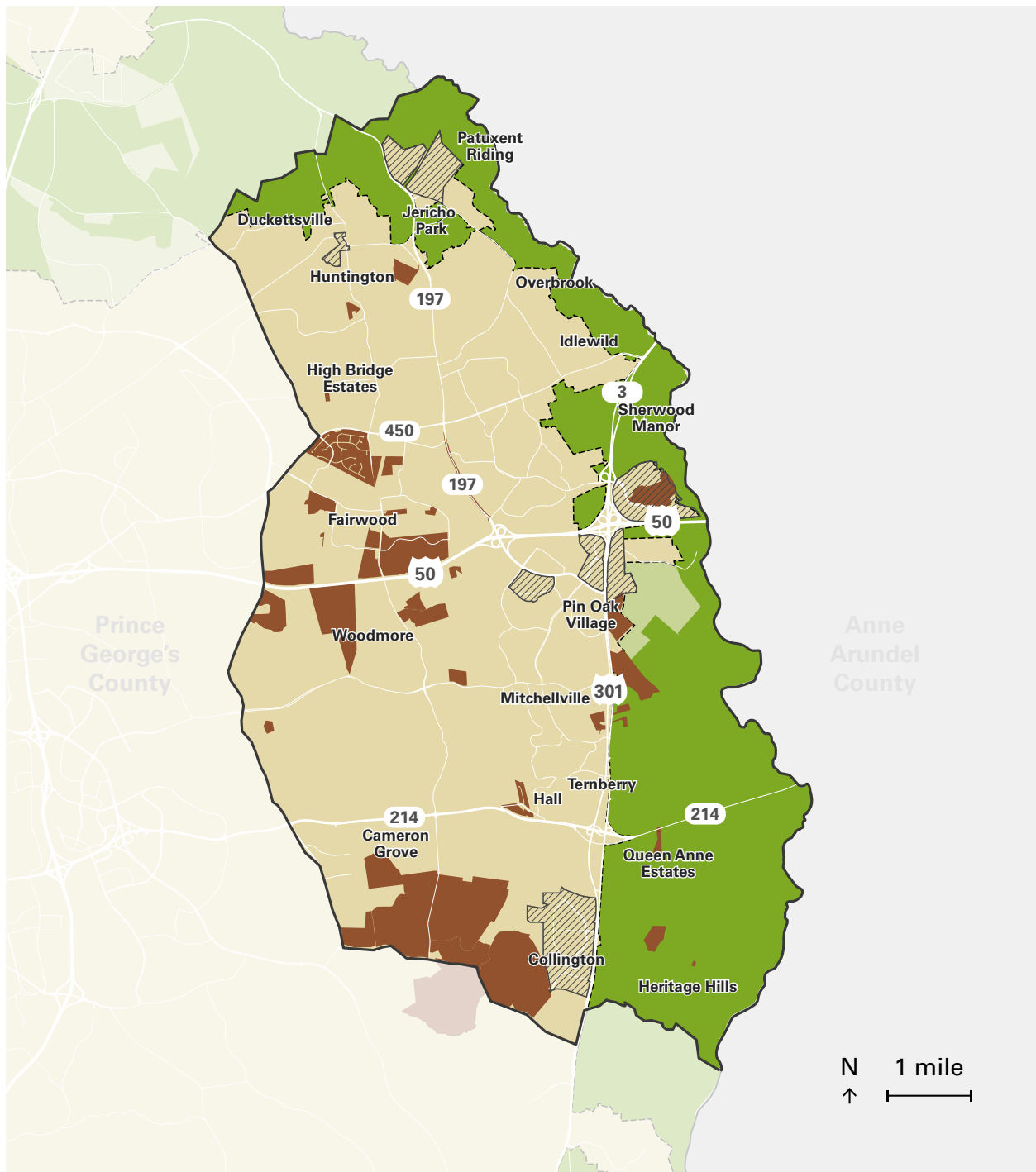
¹⁷ Guidelines for historic review are outlined in Subtitle 29 of Prince George's County code, which can be found here: https://library.municode.com/md/prince_george's_county/codes/code_of_ordinances?nodeId=PTITI17PULOLAPRGECOMA_SUBTITLE_29PRHIRE

¹⁸ Goodwin and Associates, R Christopher. 2013. "Historic Preservation Analysis: Melford Village Conceptual Site Plan."

¹⁹ "Approved Historic Sites and Districts Plan." n.d. Issuu. Accessed March 26, 2020. <https://issuu.com/mncppc/docs/>.

²⁰ "Maryland Unearthed: A Guide to Archaeological Collections at the Maryland Archaeological Conservation Laboratory." n.d. Accessed March 26, 2020. <https://apps.jefpat.maryland.gov/mdunearth/SiteSummaries/Site18PR705.aspx>.

Map 61. Archeological Survey Sites



Detailed asset inventory can be found in **Appendix F. Asset Inventories: Community Heritage and Culture** on page 238.

- | | |
|---|--|
| Archeological Survey Site (2019) | Rural/Agricultural Reserve |
| Established Communities | Focus Area |

Source: GIS Data Catalogue, Prince George's County Planning Department.



Source: M-NCPPC.

Mid-century Modern Home: Cloyd Barnes House on Smithwick Lane.

Culture: Arts and Entertainment District

Maryland has 28 designated arts and entertainment (A&E) districts, each reflecting the traditions and culture of its local community. The Maryland State Arts Council launched the program in 2001 “to stimulate the economy and improve quality of life” and offer tax incentives to locales that apply and receive the state designation.²¹ Counties and municipalities in Maryland can apply for the designation for particular area(s) within their jurisdiction that meet established criteria related to arts and entertainment activity and potential that the municipality or county would like to support and encourage through the program.

Since the inception of the program in 2001, the state has achieved many social and economic benefits associated with creative placemaking projects. The program’s most recent economic impact study shows that, in FY 2018,

events and new businesses in these A&E districts collectively supported more than \$1 billion in state gross domestic product, \$72.1 million in state and local tax revenues, and 9,987 jobs (that paid more than \$320 million in wages).

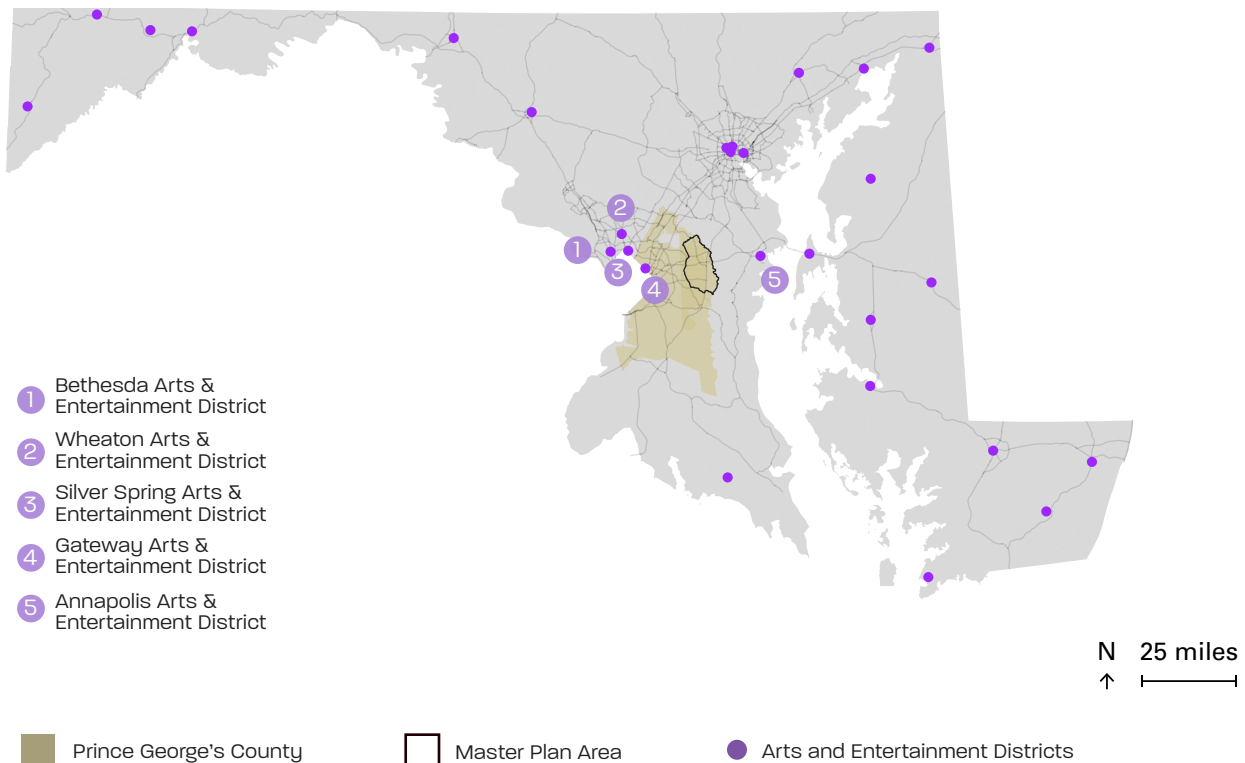
One of the state’s A&E districts—The Gateway Arts and Entertainment District—is located in Prince George’s County. However, none are in the Bowie-Mitchellville and Vicinity master plan area. In 2019, local independent artists and the Bowie Regional Arts Vision Association began pushing the Bowie City Council to apply for a state A&E designation for Old Town Bowie.²²

There may be an opportunity to create an A&E district in Bowie-Mitchellville and Vicinity by leveraging the existing character of Old Town Bowie or the retail concentration of the Bowie Local Town

21 “Maryland Incentive Zones - Arts and Entertainment Districts.” n.d. Accessed March 19, 2020. https://data.imap.maryland.gov/datasets/57ca8c352332496b86280e9ff0be8d57__2.

22 Pacella, Rachael. 2019. “Group Pushes for Old Bowie Revitalization through Art.” *Capitalgazette.com*. January 30, 2019. <https://www.capitalgazette.com/maryland/bowie/ac-cn-arts-entertainment-0207-story.html>.

Map 62. Arts & Entertainment Districts in Maryland



Source: Maryland Open Data, GIS Data Catalogue, Prince George's County Planning Department.

Center. The following highlights examples from existing A&E districts that may inspire potential branding and programming for Old Town Bowie or Bowie Town Center:

- **Oakland A&E District:** Oakland's A&E district builds on the far-western Maryland town's roots as a mecca for the Appalachian region. Located in downtown Oakland, the A&E district includes murals that reflect the town's rich history as well as the Garrett County Arts Council's gallery that sells artwork by more than 150 regional artists. With a population of less than 2,000 people, Oakland's main entertainment attractions include the Our Town Theatre, the Oakland B&O Railroad Museum, the Garrett County Museum of Transportation, and the Garrett County Historical Museum.
- **Silver Spring A&E District:** Silver Spring's A&E district comprises a variety of options for live music, theatre, film, and dance. The AFI Silver Theatre and Cultural Center is a restored movie theater that hosts a series of film festivals in addition to classic movies and documentaries. The Black Box Theater is a neighborhood theater

company providing year-round live shows that includes plays and live concerts. The Fillmore Silver Spring is a live music venue that draws both local artists and mainstream music acts and includes several bars. Silver Spring's A&E District also includes live summer concerts and public art.

- **Havre de Grace A&E District:** Havre de Grace's A&E district is comprised of several art galleries, specialty shops, and antique stores in addition to hosting annual art festivals. This waterfront town includes a variety of art centers including The Artists' Emporium art gallery, the Cultural Center at the Opera House performing arts theater, and the Arts by the Bay art gallery.
- **Gateway A&E District:** The Gateway Arts and Entertainment District, located in Prince George's County, is another important reference point for Bowie-Mitchellville and Vicinity to consider as a precedent for arts-based revitalization. Formed in 2001, the Gateway A&E district makes up a two-mile stretch along US 1 (Baltimore/Rhode Island Avenue). The Gateway A&E district features over 100 arts-based organizations. The district includes

galleries, artist studios, cafes, restaurants, a media arts lab, and three dedicated artist housing properties. It is managed by a team of public- and private-sector agencies/individuals, including the Gateway Community Development Corporation, a 501c3 nonprofit formed to drive arts-based revitalization in the district. Given the large size of this district (358 acres) and the number of artists located there (685), the examples above present a closer match to the scale of a potential A&E district in the master plan area.²³

POPULATION WORKING IN ARTS AND ENTERTAINMENT

One precedent for the establishment of an A&E district in the master plan area is the presence of working artists and cultural workers in and near the master plan area. The following map shows the number of residents who report to work in arts and entertainment occupations, according to the 2017 *American Community Survey*.

Within the master plan area there are an estimated 1,781 citizens whose occupation is in arts, design, entertainment, sports, and media (ACS 2017) within an area of approximately 37,670 acres.²⁴

The tract with the highest proportion of residents in the arts industries is 1,980 acres and has approximately 201 artists (ACS 2017). It is unclear from these numbers alone whether there is an adequate artist population in any one zone within the master plan area to sustain an A&E district, but Figure 63. Artist Population per Acre in Select A&E Districts shows the presence of working arts and entertainment professionals, particularly near Old Town Bowie. Residents and advocacy groups in the City of Bowie have advocated for the designation of an A&E district, including a citizen advisory council called Connect Bowie.²⁵

A&E DISTRICT POTENTIAL BY FOCUS AREA

In addition to the existence of artists and arts advocates, the Maryland State Arts Council evaluates potential A&E district applicants according to a core set of criteria, some of which present opportunities for planning and land use. In order to sustain a local or regional center for arts and culture, a potential A&E district should contain the capacity for affordable housing options for working artists, a cultural anchor institution, and available space to establish new cultural venues or host public events such as outdoor performances and festivals. Both Old Town Bowie and Bowie Town Center present some potential in the pursuit of an A&E district designation.

OLD TOWN BOWIE

Affordable Artist Housing

There is not a high potential within Old Town Bowie for affordable artist housing. There is not a high concentration of houses with distinctive architectural features that could be repurposed into creative housing marketed to attract artists. The area's overall low-density, lack of connectivity and lack of amenities limit its potential as an opportunity for successful, affordable or artist housing. If an A&E district were to be pursued in Old Town Bowie, successful programming, and an increase in events and visitation, will be needed to activate the node and establish an identity to then support residential development.

Figure 63. Artist Population per Acre in Select A&E Districts

District	Acres	Estimated Artist Population (2018)
Oakland	90	12
Silver Spring	186	50
Havre de Grace	153	50
Gateway	358	685

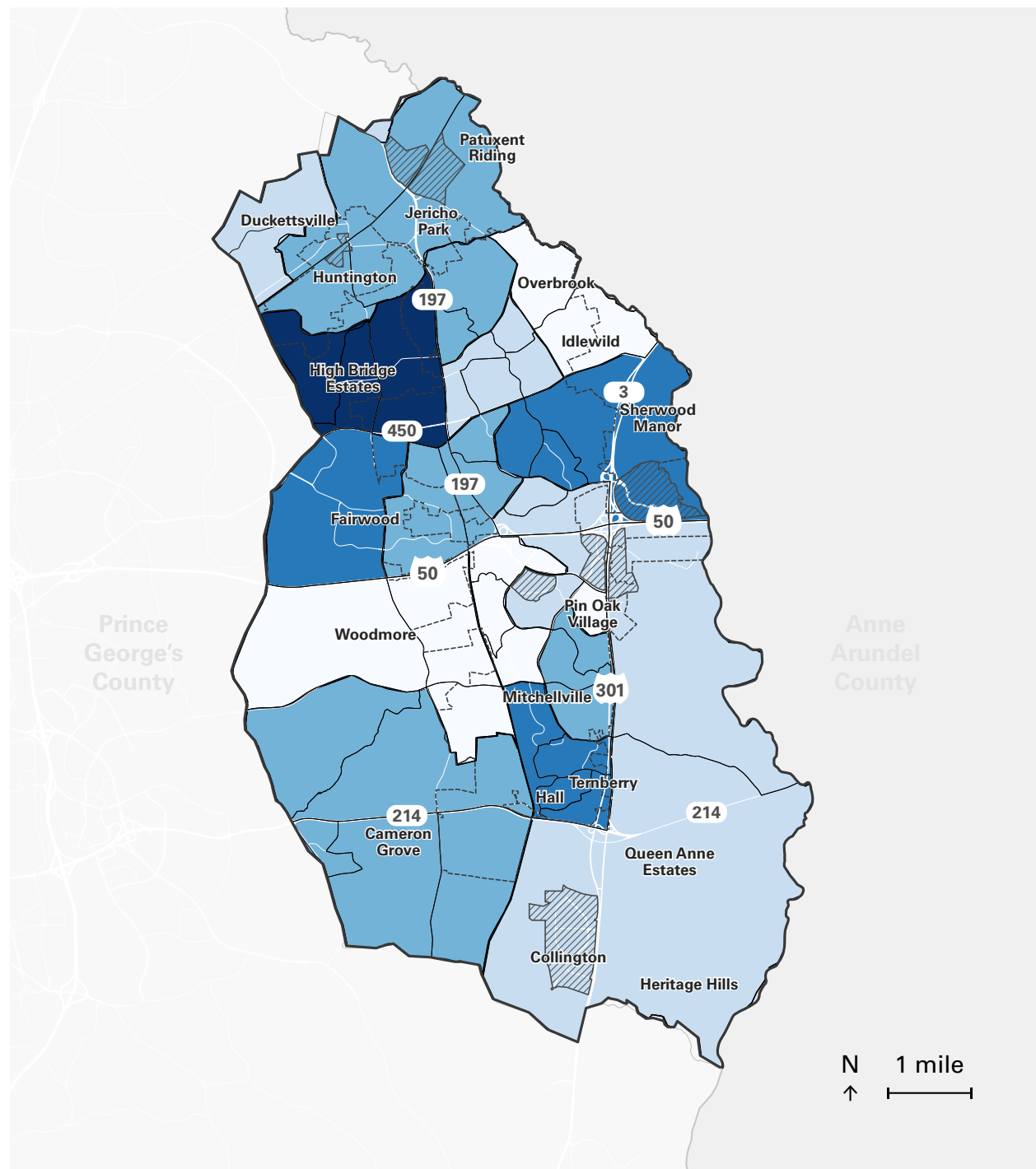
Source: Maryland State Arts Council.

23 More information about the Gateway A&E District can be found at: <http://mygatewayarts.org/live/living-in-the-arts-district/learn-about-the-districts-municipalities/#.XqyGZMhKh3g>.

24 Note: Neustar reports: 3,408 (2019, Q4) in "Arts Industries."

25 See: <https://bowieconnect.org/a7o26e-district-plan>.

Map 63. Total Population with Occupation in Arts, Entertainment, Design, and Media (2017)



Arts Occupation (Total Population by Census Block Group, 2017)



Source: American Community Survey 2017.



Source: M-NCPPC.

New Anchor Cultural/Arts Institution

Rather than pursue new institutions in Old Town Bowie, the City of Bowie should focus on its existing assets. The strongest opportunity is to expand the Railroad Museum into a cultural anchor with robust programmatic offerings and a greater variety and frequency of events. The historic nature of the railroad buildings and their importance in regional transit and connectivity could be leveraged as the foundation of the district's identity, helping to build a historic theme for arts, music, fairs, and other events offered in the district. There would need to be engagement with residents, business owners, and museum officials to better understand this potential.

Vacant Land

There is a large wooded parcel to the southeast of the intersection at 5th and Chestnut Avenue, in Old Town Bowie. It is accessible from the Bowie Railroad Museum and Old Bowie Town Grille. This could be used in the summer and through the fall to host outdoor events and gatherings in partnership with the museum, which would attract residents and visitors to the area. An aerial view of this vacant area can be seen in the Figure 65. Vacant Parcel South of IMI Training Center at Melford Town Center.

BOWIE LOCAL TOWN CENTER

Affordable Artist Housing

There is potential for mixed-income residential development to be delivered as part of infill development around Bowie Town Center. This would need to be included as part of a mixed-use development that promotes connectivity to existing retail and food and beverage establishments in the area. However, without a clear identity in the area and a lack of existing arts assets or cultural anchors, it would be difficult to market this as "artist" housing.

New Anchor Cultural/Arts Institution

One opportunity for the master plan area to consider is the development of an entertainment or performance venue at Bowie Town Center, potentially near Melford Town Center, in addition to the existing Courtyard Marriott, would add significant residential density to the area. Pursuit of an entertainment or performance venue should be considered only after Melford's residential development has begun to deliver, so that there is increased density in place to help support a venue. In exploring the potential and feasibility of a new performance or entertainment venue at Bowie Town Center, the City of Bowie and vicinity should engage with Bowie State University (BSU) about potential collaboration, leveraging BSU's existing performance capacities. BSU's Fine and Performing Arts Center opened in 2012 and the BSU Theatre produces two main stage productions and two black box productions per season. The BSU Theatre also hosts student produced work and visiting companies, as well as other co-curricular activities for students, faculty/staff, and the community. The fine and performing arts center features a 400-seat main stage theater, a 200-seat black box theater, and a 90-seat movement studio. Conversations with the arts center could help planners understand the level of demand for performance space in the area and explore the potential for BSU resources to help activate a new venue at Bowie Local Town Center.

Vacant Land

At Melford Town Center, there is a parcel slated for future residential development. The parcel is directly south of the existing IMI Training Center and provides potential for integrating a mix of uses, which could include art-related uses or artist housing.

Figure 64. Wooded Parcel Near Bowie Railroad Museum



Source: GIS Data Catalogue, Prince George's County Planning Department.

Figure 65. Vacant Parcel South of IMI Training Center at Melford Town Center



Source: GIS Data Catalogue, Prince George's County Planning Department.

Discussion of Challenges and Opportunities

HISTORY AND HERITAGE

While the master plan area features a variety of historic sites and features, preservation of historic integrity and character has presented a challenge to Bowie-Mitchellville and Vicinity in the past. Twentieth-century suburban development has replaced or diminished many historic structures. The master plan area faces general barriers to historic preservation and adaptive reuse, including understanding the complexities of historic preservation designations and registries.

Old Town Bowie was not included in the 2010 *Historic Sites and Districts Plan* and has not qualified in the past for historic district designation. An MIHP form compiled by a consultant in 2009 found that Old Town Bowie lacked the historic integrity, character, and feeling necessary for historic district status. The City of Bowie should consider the pros and cons of pursuing a historic district designation for Old Town Bowie at the County level, including weighing the possible benefits to such a designation in future planning and preservation.

The Goodwood historic site (74B-014), listed on HPC's Properties of Concern list, is located in the Rural and Agricultural Reserve—past the County's growth boundary. The current sales listing advertises the property as a development opportunity to subdivide and construct housing. This points to the challenge of turnover of historic sites and properties that, in addition to threatening historic preservation, may run counter to County and local planning objectives.

WAYFINDING AND THE ANACOSTIA TRAIL HERITAGE AREA

The Anacostia Trail Heritage Area presents an opportunity to apply for heritage grants through the state to further highlight the natural and historic assets in the master plan area. The Anacostia Trail Heritage Area encompasses all, or parts of all, focus areas considered in this report, except for the Collington Trade Zone. This may point to opportunities to better connect the focus areas to local history and to each other. Local and regional tourism can be expanded using grant funding and the existing sites and tourism assets of Old Town Bowie.

HIGHLIGHTING AFRICAN AMERICAN HISTORY AND CULTURE

Bowie-Mitchellville and Vicinity is home to many significant historic African American communities and sites, as well as BSU, a historically Black university. The master plan area can further highlight African American history and heritage sites around Old Town Bowie and the nearby historic rural community of Fletchertown. The master plan area may consider structural enhancements such as wayfinding and signage at sites and along trails, as well as programmatic approaches such as tours, festivals, and cultural events that highlight the historical and ongoing contributions of African American communities to Bowie-Mitchellville and Vicinity.

ARTS AND ENTERTAINMENT DISTRICT

Both Old Town Bowie and Bowie Town Center present some challenges toward the establishment of an A&E district. In Old Town Bowie, there is a lack of potential for artist housing and other residential growth, while Bowie Town Center lacks a clear art-related identity or existing art-related assets.²⁶

The master plan area has the potential to create its own arts and entertainment district by incorporating local art, community activities, and entertainment events in either Old Town Bowie or Bowie Town Center. The existing population who work in the arts, and the presence of residents and citizen advisors who have recently advocated for an A&E designation, are assets in laying the foundation for an A&E district in the master plan area.

There is an opportunity to learn from the experiences of the arts community in the Gateway Arts District in recent years and leverage local collaboration to assess the potential of arts-based strategies and funding streams (within or apart from A&E district designation). For instance, one lesson learned from the Gateway Arts District is the challenge of rising housing costs that can drive the displacement of artist residents whose work and livelihood have driven development and revitalization in the district.

²⁶ "Group Pushes for Old Bowie Revitalization through Art—Capital Gazette." n.d. Accessed April 6, 2020. <https://www.capitalgazette.com/maryland/bowie/ac-cn-arts-entertainment-0207-story.html>.



The Bowie Farmers Market.

Source: The City of Bowie.

2.7 Healthy Communities



Bowie-Mitchellville and Vicinity is an area rich with natural features including plentiful open space, parks, and agriculture/farmland. The majority of residents can access a local or regional park with a 10-minute drive and the City of Bowie has the most extensive trail network of any municipality within the County.

The master plan area also faces challenges related to community health, such as a large and growing population of senior residents and automobile dependence, which can contribute to less active lifestyles for residents and inhibits active forms of transportation such as walking or bicycling.

As Bowie-Mitchellville and Vicinity plans for a healthy and sustainable future, this set of analyses considers existing conditions related to green space and recreational facilities access, food access and resources, senior population and wellness, and environmental conditions and sustainability.

COVERED IN THIS SECTION:

- Park Access
- Food Systems
- Senior Care and Services
- Sustainability and Environment

How can the master plan area ensure the health and sustainability of its communities, now and in the future, through active transportation, food and healthcare access, and promoting access to the County's Green Infrastructure Network?

Park Access Analysis

PARK LAND PER CAPITA

Approximately 10 percent of the master plan area is comprised of publicly accessible parks. This places the master plan area above most planning standards for desired amounts of parks and green space.

Calculating the total number of green space per capita, or per 1,000 residents, can be a helpful way to rate a planning area's level of park access. In Bowie-Mitchellville and Vicinity, an area of 37,670 total acres, approximately 3,646 acres are parks or about 10 percent of total land area. The total population in the master plan area, as of 2019, is approximately 88,590—meaning there are about 42 acres of park land per 1,000 residents. The Prince George's County system-wide park land level of service (LOS) standards, as established in the Formula 2040 plan, sets 35 acres per 1,000 population as a countywide benchmark, placing Bowie-Mitchellville and Vicinity well above the LOS standard.

The master plan area's total park land equates to about 170 square meters per capita. This places the master plan area above the planning standards for urban green space, in which 50 square meters per capita is held as a standard by many researchers.¹ However, as seen in Figure 68, Park Land as Percentage of Total Area, National and Regional Comparison, the master plan area falls below the national median for the percentage of land used for parks and recreation.

There are 64 parks in the master plan area, and approximately 66 percent of them have trails or active recreation facilities for the enjoyment of residents and visitors—31 parks have recreational facilities such as playgrounds, sports complexes, or exercise equipment; 26 parks have trails for walking and/or biking; and 15 parks have both recreational facilities and trail access.²

1 Russo, Alessio, and Giuseppe T. Cirella. 2018. "Modern Compact Cities: How Much Greenery Do We Need?" *International Journal of Environmental Research and Public Health* 15 (10). <https://doi.org/10.3390/ijerph15102180>.

2 Parks data come from the Prince George's County Planning Department.

Figure 66. Acreage of Park Land in Bowie-Mitchellville and Vicinity

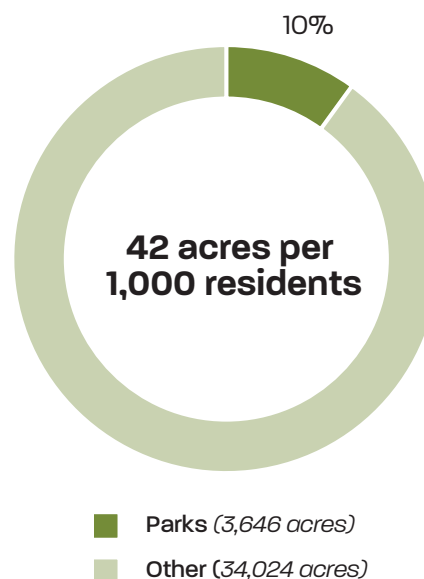
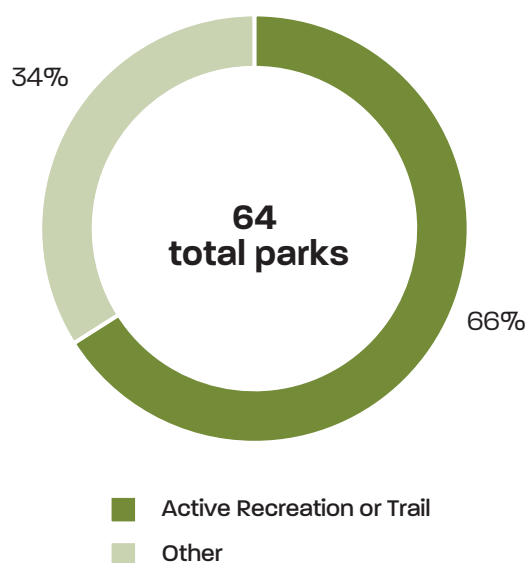


Figure 67. Acreage of Active Recreation or Trail in Bowie-Mitchellville and Vicinity



Source (all figures on this page): GIS Data Catalogue, Prince George's County Planning Department.

Figure 68. Park Land as Percentage of Total Area, National and Regional Comparison

Locale	Total Area (acres)	% Park Land
Master Plan Area	37,120	10%
*Washington, D.C.	43,766	21%
National Median		15%

* Washington, DC has the second highest ParkScore rating in the country from the Trust for Public Land as of 2020.

Based on data from the Prince George's County Planning Department, almost all parks in the master plan area are owned and operated by M-NCPPC. Two facilities are municipally owned (Bowie Community Center and Huntington Community Center) and the Prince George's Boys and Girls Club operates a parks facility on Woodmore Road.

PARK ACCESS IN BOWIE-MITCHELLVILLE AND VICINITY

Local and regional parks provide space for recreation, sports, gathering, and outdoor access for residents of Bowie-Mitchellville and Vicinity. This set of analyses considers park access in the master plan area—via foot, bicycle, and car—both as a percentage of total land area, and as a percentage of population served.

In the following analyses, walking distances in Bowie-Mitchellville and Vicinity are calculated along existing road networks using the Mapbox Isochrone API, a tool that computes geographic areas that are reachable within a specified distance or amount of time, by mode of travel. This methodology accounts for barriers and hazards for walkers and cyclists, but does not strictly adhere to sidewalks, trails, or bike lanes. These features are shown on the maps in this section for added reference and context.

While 86 percent of land in the master plan area falls within a 10-minute drive of a park, only 22 percent of Bowie-Mitchellville and Vicinity falls within a 10-minute walk from a park. This discrepancy does not come as a surprise given the historic development of this suburban community around the automobile. In terms of population, the walkable service area for parks in Bowie-Mitchellville and Vicinity includes about 29 percent of the master plan area's population.



Source: M-NCPPC.

Formula 2040 calls for a 20,000-square-foot nonaquatic addition to the Bowie Community Center, which is owned and operated by the City of Bowie.

By comparison, 64 percent of the land area in Bowie-Mitchellville and Vicinity falls within a 10-minute bike ride from a park. While this figure does not account for the master plan area's challenges related to bike safety and infrastructure (e.g., lack of bike lanes and side paths, and poor route connectivity), it does suggest that there may be potential to expand bicycle use as a form of active transportation to and from local parks.



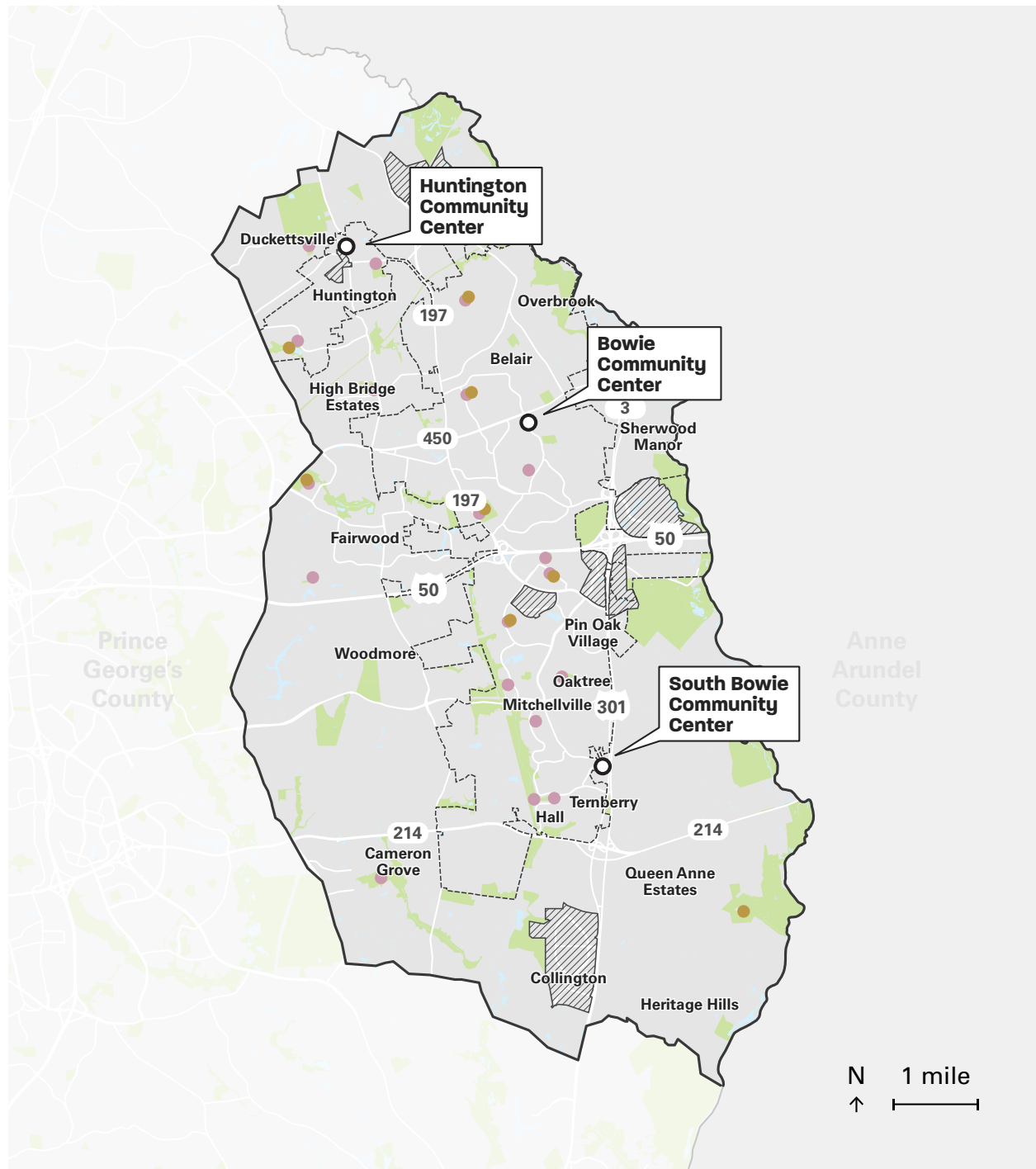
FORMULA 2040 PARKS PLAN (2014)

The Formula 2040 Parks Plan, approved in 2014, established the Department of Parks and Recreation's (DPR) framework to meet the County's future parks and recreation needs. An overriding goal of this plan is to connect County residents to quality parks, recreational facilities, and trails that match their needs according to level of service (LOS) standards.

Formula 2040 calls for a 20,000-square-foot nonaquatic addition to the Bowie Community Center and a 20,000-square-foot nonaquatic addition to the South Bowie Community Center. The plan also calls for an expansion of the Glenn Dale Community Center, just outside the master plan area boundaries, into a multigenerational center, including the addition of three sizable facilities (including indoor and outdoor aquatic facilities).

Policy PF6 of Plan 2035 calls for future planning in the County to support the objectives of Formula 2040, including a shift toward intergenerational recreational facilities with aquatic elements, and adopting comprehensive standards related to parks land acquisition, facilities design, and more.

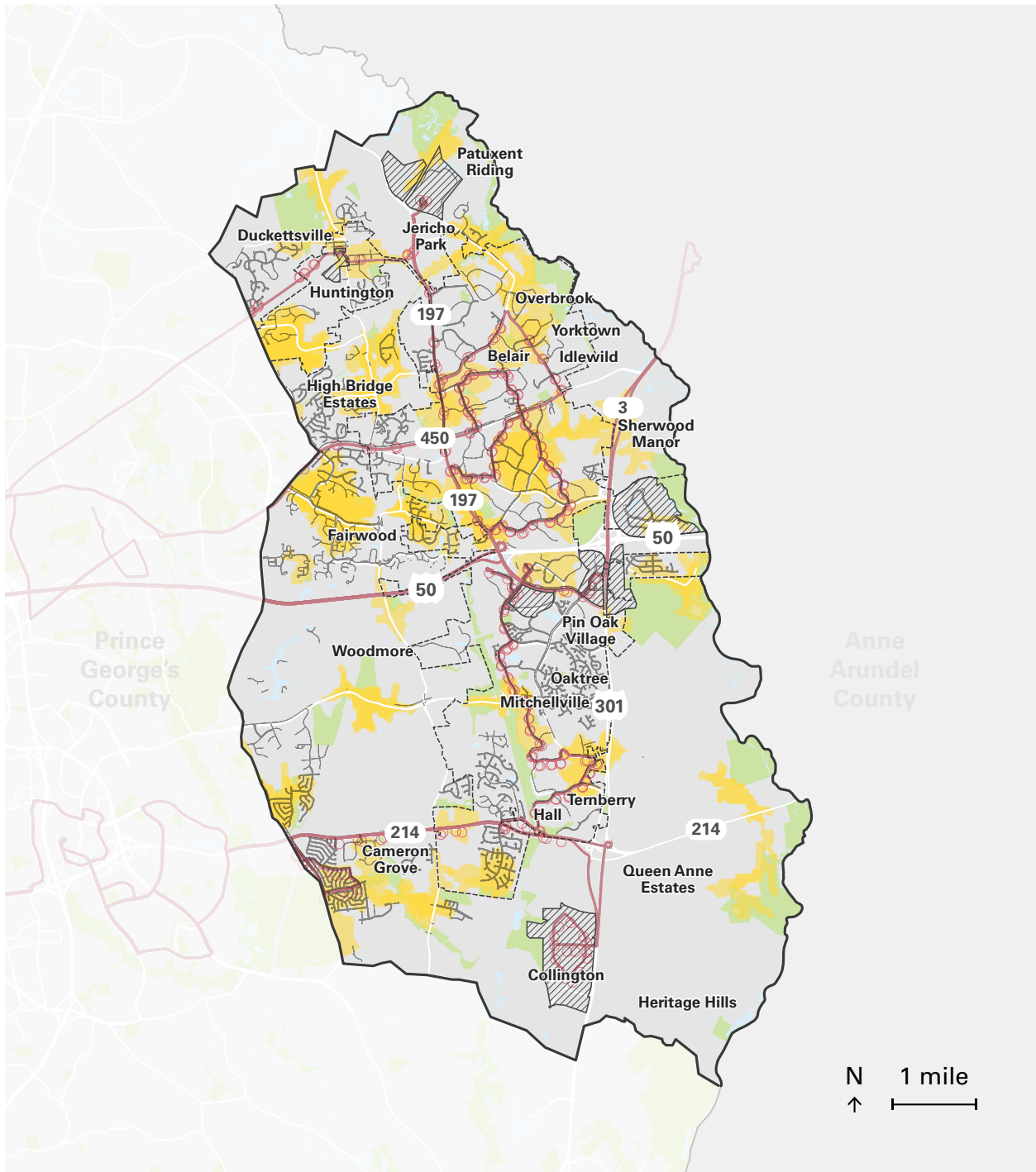
Map 64. Parks and Recreational Facilities in Bowie-Mitchellville and Vicinity



Detailed asset inventory can be found in Appendix G. Asset Inventories: Healthy Communities on page 240.

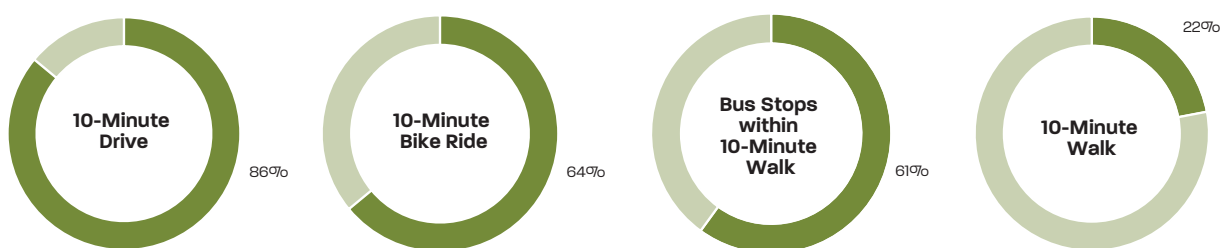
Source: GIS Data Catalogue, Prince George's County Planning Department.

Map 65. Master Plan Area Park Access: 10-Minute Walksheds



Source: GIS Data Catalogue, Prince George's County Planning Department.

Figure 69. Park Access in Bowie-Mitchellville and Vicinity (as Percentage of Land Area)



Source: GIS Data Catalogue, Prince George's County Planning Department

In terms of public transportation, over 60 percent of bus stops in the master plan area are within a 10-minute walk from a park. This equates to 171 of 282 bus stops. Note that only about 67 percent of dwelling units in Bowie-Mitchellville and Vicinity are located within a quarter-mile walk of a bus stop. This figure, paired with challenges related to bus reliability and ridership, indicates that residents are unlikely to access parks and outdoor recreation via public transportation.

Transportation conditions and infrastructure, including pedestrian and cyclist safety and public transit ridership and access, are discussed in greater length in Section 2.5. Transportation and Mobility.

Residents in the master plan area are considerably less likely to live within a 10-minute walk of a park than their counterparts in Washington, D.C., which, at 98 percent, has the highest ParkScore of all U.S. cities, as measured by the Trust for Public Land. However, park access is not spread evenly throughout the master plan area. Residents within the City of Bowie are much more likely to live within walking distance of a park than the master plan population overall. In fact, at 64 percent of residents within a 10-minute walk of a park, the City of Bowie ranks above the national average of cities and towns assessed by the Trust for Public Land's ParkScore. This speaks to the greater density and

walkability within the City of Bowie, and the higher prevalence of public neighborhood parks.

Portions of the master plan area north of MD 450 (Annapolis Road) are generally better served by walkable local parks. There are 10-minute walksheds within or adjacent to each of the master plan focus areas, aside from the Collington Trade Zone. Residents in established communities are less consistently served by parks within walking distance. There are fewer small, local parks in parts of the master plan area, particularly south of MD 450. There is also less sidewalk infrastructure connecting residents to parks in some established communities, including along the Church Road corridor south of MD 450.

Some residents in Bowie-Mitchellville and Vicinity have walking access to parks just outside the master plan area boundaries—with the most significant example being Watkins Regional Park, situated directly west of MD 193, which has a walkshed that is relatively well serviced by sidewalks.

Map 66. Master Plan Area Park Access: 10-Minute Bike Ride illustrates park access in the master plan area by bike and is calculated using road network distances. These calculations do not take cycling conditions into account such as road safety and bike infrastructure. However, bike lanes are identified with green lines.

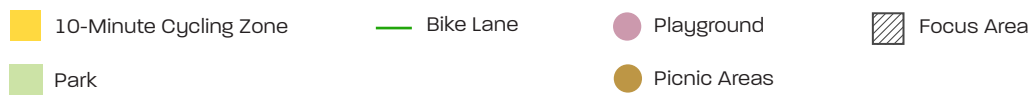
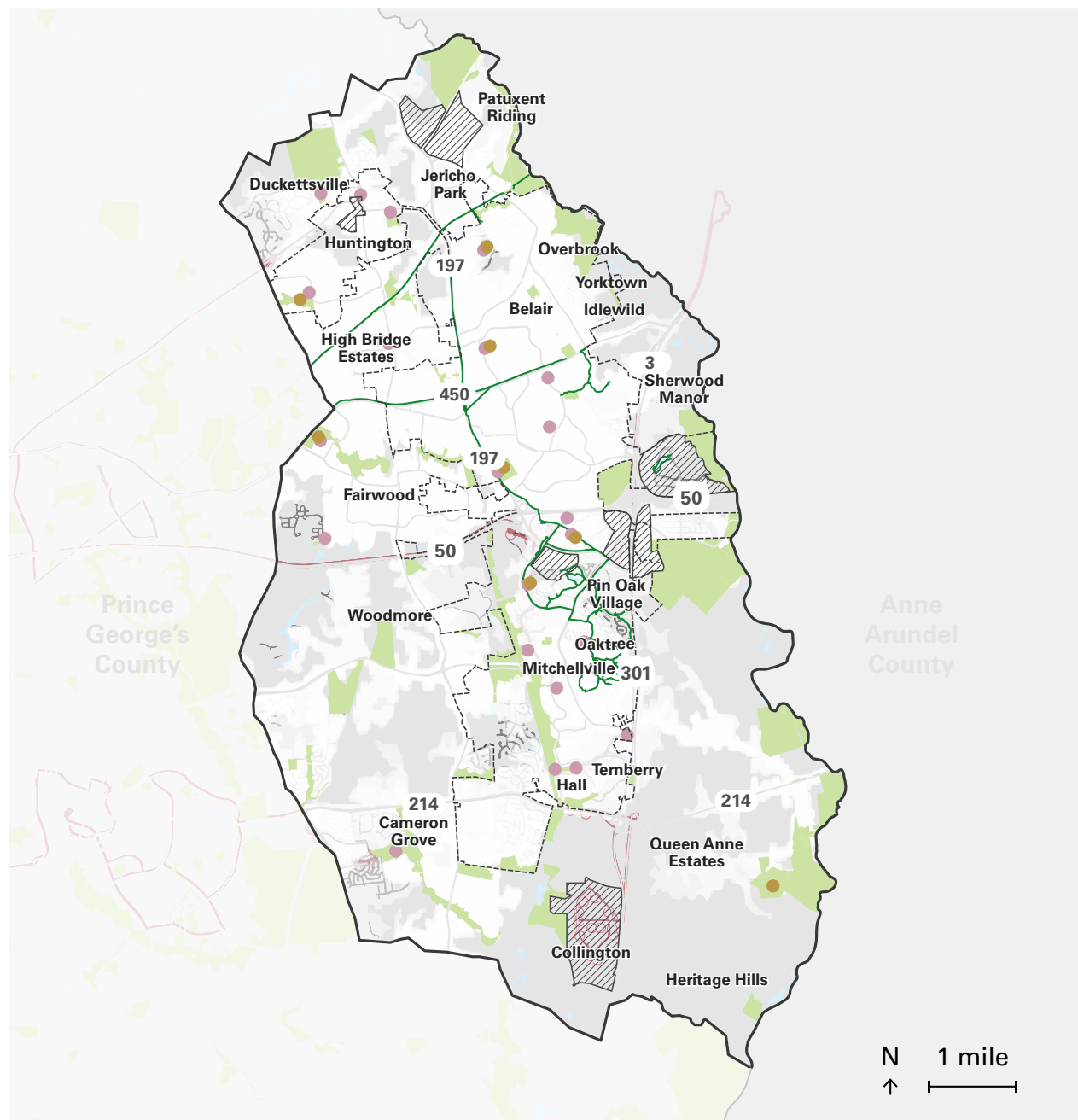
Figure 70. Park Access in Bowie-Mitchellville and Vicinity (as Percentage of Land Area)

Locale	Total Population (2018)	% Within 10 Minutes of a Park
Master Plan Area	88,590	28.6%
City of Bowie	58,682	64%
*Washington, D.C.	702,455	98%
Prince George's County	909,308	tbd
National Average (cities and towns)		54%

Source: Trust for Public Land

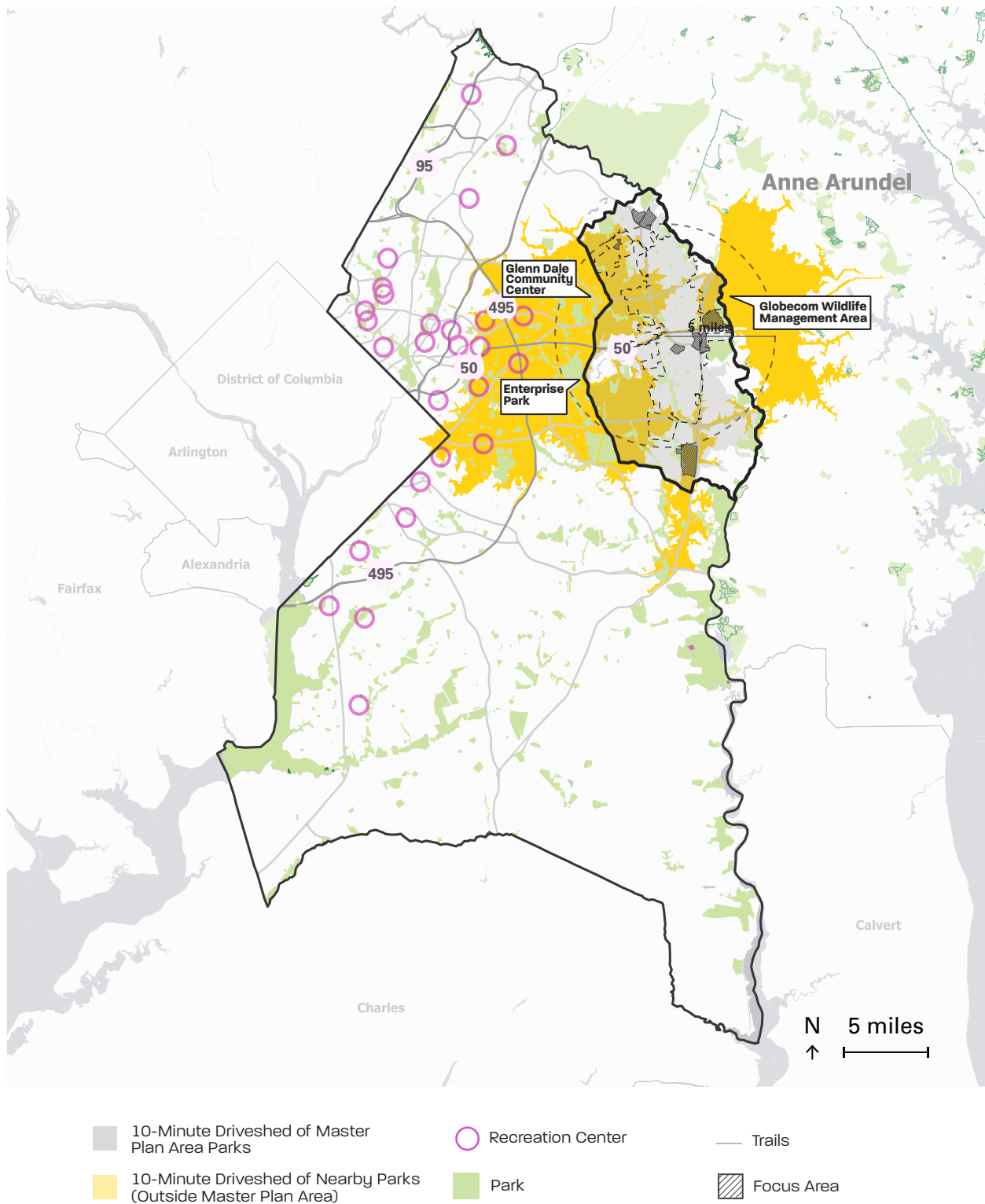
*Washington, D.C. has the highest ParkScore of all U.S. cities, as measured by the Trust for Public Land.

Map 66. Master Plan Area Park Access: 10-Minute Bike Ride



Source: GIS Data Catalogue, Prince George's County Planning Department; Mapbox Isochrone API.

Map 67. Regional Parks Access: Local and Regional Park 10-Minute Drivesheds



Source: GIS Data Catalogue, Prince George's County Planning Department; Mapbox Isochrones API.



Source: M-NCPPC.

Most bike infrastructure is concentrated in and around Bowie Town Center, with some longer routes north of MD 450. The actual percentage of master plan area within a 10-minute bike ride of a park may be lower if we account for biking conditions and infrastructure—particularly in the southern half of the master plan area.

REGIONAL PARK ACCESS

Bowie-Mitchellville and Vicinity boasts many parks, including many with facilities such as community centers, playgrounds, picnic areas, and trails. However, residents also enjoy access to many parks that fall outside the boundaries of the master plan area. The 10-minute drivesheds of these nearby parks are shown in Map 67. Regional Parks Access: Local and Regional Park 10-Minute Drivesheds.

Glenn Dale Community Center, located just outside the master plan area in Glenn Dale, Maryland, is a short drive away for many Bowie-Mitchellville and Vicinity residents, particularly those residing in the northwest portion of the master plan area. Glenn Dale Community Center features a wide array of facilities and programming, including childcare and specialized programming for teens and seniors. The 19,653-square-foot Glenn Dale Splash Park includes aquatic facilities, such as an outdoor pool, water slide, locker rooms, and a vending area, and can be accessed seasonally for an admissions fee between \$5.00–\$8.00. In accordance with Formula 2040 plan recommendations, the Glenn Dale Community Center will be expanded as a multigenerational community

center, with an additional 65,000 square feet of aquatic and nonaquatic recreational facilities.

Directly to the east of the master plan area in Anne Arundel County is the Globecom Wildlife Management Area in Davidsonville, Maryland, a 207-acre reserve known for wildlife, birdwatching, hunting, and more.

Enterprise Park, an M-NCPPC-owned park situated just outside the master plan area on Enterprise Road in Mitchellville, features an 18-hole, year-round public golf course.

TRAILS NETWORK

With approximately 19 miles of paved and unpaved trails, the City of Bowie has the largest trail network of any municipality in the County.³ The 2016 *Trails Master Plan for Prince George's County* rates current trail access (as of 2016) in the City of Bowie as “good,” and rates future trail access with the buildout of planned or proposed trail networks as “excellent.” The plan does not consider City of Bowie to move from “disconnected” to “connected” to the County’s primary and secondary trail networks through the implementation of planned trails.⁴

Major barriers to trails access and expansion that impact the master plan area include US 50 (John Hanson Highway) and the Northeast Corridor (Amtrak and MARC rail line), MD 197 (Laurel Bowie Road), MD 214 (Central Avenue), and US 301 (Crain Highway) are classified as minor barriers.

³ The Maryland-National Capital Park and Planning Commission. 2016. “Trails Master Plan for Prince George’s County.” https://issuu.com/pgparks/docs/trails_master_plan_low_res.

⁴ The City of Bowie. 2019. “The City of Bowie Trails Master Plan and Complete Street Policy.” <https://www.cityofbowie.org/2410/Trails-Master-Plan>.

Food Systems

Food access is another important consideration in understanding and improving the health of communities in Bowie-Mitchellville and Vicinity. This report considers the degree of access master plan area residents have to fresh food sources including supermarkets, farmers markets, and farms that sell locally.

Close proximity to agricultural land, and the potential for community gardens and farms within more densely populated parts of the master plan area, are assets to consider in planning for a sustainable local food system.

Bowie-Mitchellville and Vicinity possesses other strong assets related to the availability of fresh food including two publicly managed community gardens, two farmers markets, several food pantries, and other resources. However some areas within the master plan area are less well served by fresh food options including a portion of the US 301 Corridor and much of the northern portion of the master plan area—including Old Town Bowie and Bowie State University (BSU).

FRESH FOOD ACCESS

Consistent with other trends related to access and mobility in the master plan area, supermarkets are more easily accessible by car than by foot. While the master plan area features corner stores and convenience stores that sell food, these stores are not included in the fresh food access analysis as they are not considered to provide a full range of healthy, fresh, and affordable food options.⁵

In terms of land area, about 62 percent of the master plan area falls within a 10-minute drive of a supermarket.

There is far less access to supermarkets by foot. In terms of land area, only 4 percent of Bowie-Mitchellville and Vicinity falls within a 10-minute walk of a supermarket.

Seventeen percent of bus stops are located within a 10-minute walk of a supermarket (48 of 282 bus stops in the master plan area). As mentioned previously, only about 67 percent of dwelling units in the master plan area falls within a quarter-mile walk of a bus stop, and the local bus system faces challenges with ridership and schedule consistency. In today's conditions, bus travel is likely not the most practical way for residents to access supermarkets and other food sources.

Five out of seven supermarket walksheds (10-minute walk) contain at least one bus stop, or 71 percent of supermarket walksheds. While the master plan area faces broader challenges related to bus service, as mentioned in the discussion of parks and green space access, these bus stops may warrant consideration as an asset to prioritize future improvements of the local bus system.

As seen in Map 68. Supermarket Access in the Master Plan Area (Walking and Driving), a large portion of the master plan area is covered by the 10-minute driveshed for supermarket access. Much of the rural and agricultural preserve to the east of US 301 (Crain Highway) falls outside of this driveshed. However this is not alarming, given that most standards for fresh food access would expect those residing in areas classified as rural to travel farther than 10 minutes for supermarket access.⁶

Much of Bowie State University (BSU) and its vicinity, as well as nearby subdivisions along the west side of MD 197, fall outside of the 10-minute driveshed for supermarket access. As discussed in the upcoming analysis of limited supermarket access areas (LSA's), this area also presents low food access relative to other blocks of comparable population size, density, and car ownership.

Most supermarkets, and their 10-minute walksheds, are concentrated in the US 301 (Crain Highway) corridor near Bowie Local Town Center and along the MD 450 (Annapolis Road) corridor west of MD 197 (Collington/Laurel Bowie Road).

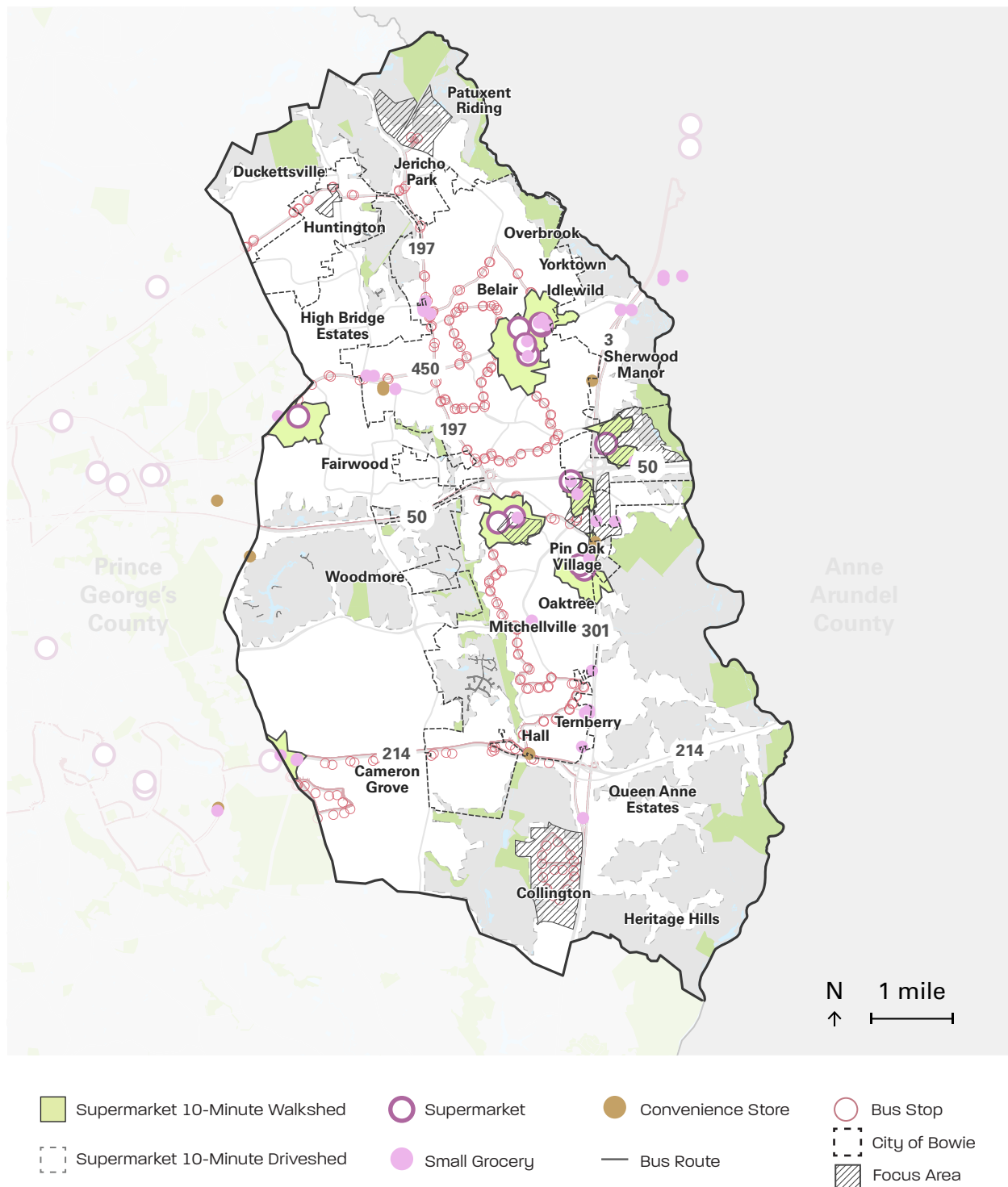
The map also indicates smaller grocery options such as convenience stores and corner grocers, which are most prevalent along US 301 but also found in other commercial centers, including along MD 450 and MD 197.

While bus is likely not the most practical way to travel to and from supermarkets in the master plan area, it is worth noting that five supermarkets have bus stops situated at, or adjacent to, their entrances/parking lots. This figure does not take into account walking conditions, pedestrian safety, or other barriers to access between bus stops and supermarket entrances. Further analysis is recommended to evaluate these factors.

⁵ See, for example, the USDA Food Access Research Atlas: <https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/>

⁶ See, for example, USDA Food Research Atlas Standards: <https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/>

Map 68. Supermarket Access in the Master Plan Area (Walking and Driving)



Source: GIS Data Catalogue, Prince George's County Planning Department; Mapbox Isochrones API.

SUPPLEMENTAL NUTRITIONAL ASSISTANCE PROGRAM (SNAP) BENEFITS AND FOOD RESOURCES

As of 2017, approximately 9.6 percent of the population in Prince George's County participated in Supplemental Nutrition Assistance Program (SNAP). The master plan area has a much lower rate of SNAP enrollment overall as compared to the County, with the average SNAP enrollment rate for census block groups at approximately four percent. The census block with the highest percentage of household SNAP participation between 2014–2018 is on par with the County average, with a rate of 9.7 percent.

LOW FOOD ACCESS: LIMITED SUPERMARKET ACCESS AREAS (LSA)—2018

The Limited Supermarket Access Areas analysis is a national analysis conducted by The Reinvestment Fund (TRF) that identifies areas with relatively limited access to supermarkets. This analysis uses supermarkets as a proxy for healthy food access, given that these stores tend to provide a wider variety of healthier foods, at lower prices.⁷

Each block group in this analysis is assigned a class based on population density and car ownership. Distance traveled to the nearest supermarket is then compared to typical distances traveled by residents in well-served block groups. Block groups are then assigned a low access score: the percentage by which that block group's distance to the nearest supermarket would need to be reduced to equal the typical distance for well-served block groups in that class. If a block's score is greater than or equal to 0.45, it is considered to be limited-access. These residents travel almost twice as far, on average, to a supermarket as those in well-served block groups with similar profiles based on population density and car ownership.

LSA areas are contiguous sets of limited access block groups with a population of 5,000 people or more, in which there may be enough market demand to support expanded supermarket offerings.

In Prince George's County, a total of 229,480 residents (as of 2018) live within LSA areas—which constitutes about 25 percent of the population. Approximately 12,367 of these residents—or about 5 percent of the total—reside within the master plan area.⁸

Figure 71. Supermarkets in Bowie-Mitchellville and Vicinity

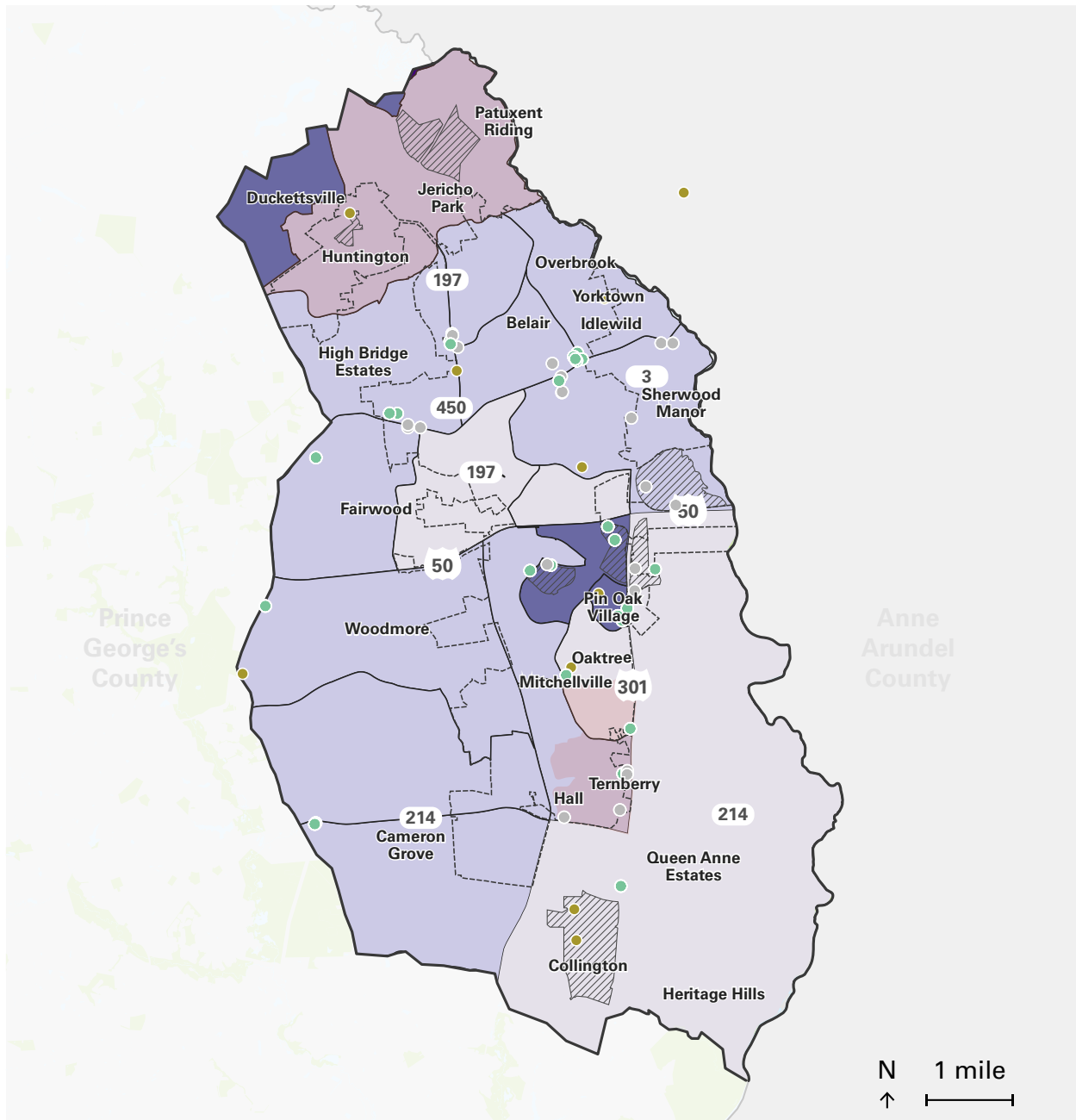
Store Name	Address	Zip Code	EBT/SNAP accepted	Bus Stop
Target Grocery	4600 Mitchellville Rd	20716	Yes	No
Shoppers	10501 Martin Luther King Jr Hwy	20720	No	No
Safeway	12410 Fairwood Pkwy	20720	Yes	Yes
Safeway	4101 Northview Dr	20716	Yes	Yes
Harris Teeter	15501 Annapolis Rd # 400	20715	Yes	Yes
MOM's Organic Market	6824 Race Track Rd	20715	Yes	Yes
Giant Food	15520 Annapolis Rd	20715	Yes	Yes
Giant Food	3500 Crain Hwy	20716	Yes	No
ALDI	6810 Race Track Rd	20715	Yes	Yes
Walmart	3300 Crain Hwy	20716	Yes	No

Source: Maryland State Open Data.

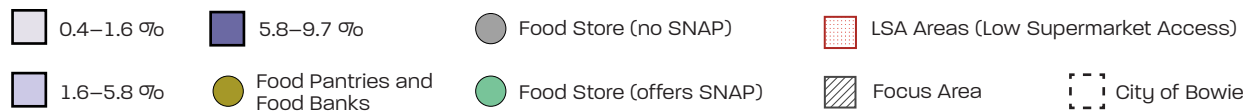
⁷ "2018 Update of the Limited Supermarket Access Analysis." 2018. Reinvestment Fund. 2018. <https://www.reinvestment.com/research-publications/2018-update-analysis-of-limited-supermarket-access/>.

⁸ "Limited Supermarket Access Areas 2018." 2018. Johns Hopkins Center for a Livable Future. 2018. https://data-clf.hub.arcgis.com/datasets/bd52388c5f6d4b41b0d06833690dbb6e_258.

Map 69. Supplemental Nutrition Assistance Program (SNAP) Participation and Food Resources Map (2018)



Percent of Residents Enrolled in SNAP (2018) Households Participating in SNAP (by census tract, 2014-2018)



Source: U.S. Census Bureau, Johns Hopkins Center for a Livable Future.



Source: M-NCPPC.

A small farm near Mitchellville.

AGRICULTURE AND FRESH FOOD

There are about 6,200 acres of agricultural land in Bowie and Vicinity, representing approximately 16 percent of total acres in the master plan area.⁹

There are two farmers markets in the master plan area, and five farms that sell locally, either through farmstand, markets, community supported agriculture (CSA), or through wholesale. There are several others near the master plan area, particularly adjacent to the southeast boundary in Anne Arundel County.

The master plan area features two community gardens accessible to the public: the Bowie Community Garden at the Kenhill Center and the community garden at South Bowie Community Center.¹⁰ The Kenhill Center community garden is available only to residents of the

City of Bowie, and is managed by the municipality. Just outside the master plan area, there is a community garden located in Watkins Regional Park, which is managed by M-NCPPC.

In July 2019, the Prince George's County Council introduced CB-14-2019, a bill that defines urban farms within the County's zoning code. This bill authorizes urban farming in 21 zones, including a range of residential, commercial, and industrial zones. According to the Prince George's Soil Conservation District, approximately 79 percent of land in the County now allows urban agriculture thanks to the passage of this bill.

⁹ Data provided by the Prince George's County Soil Conservation District, 2020.

¹⁰ There may be additional community gardens in the master plan area. Many community gardens are located on private properties. The County does not keep an inventory of active community gardens and urban farms in the County or master plan area.

The County also offers an Urban Agricultural Property Tax Credit, established by the Council in 2015. Applicants may pursue up to \$5,000 in tax credits annually for property owners using their land for urban agriculture (defined as land between one-eighth of an acre and five acres zoned for agricultural uses or recognized as an urban farm pursuant to the County zoning ordinance).

One of the goals of the City of Bowie Sustainability Plan (FW1) is to “achieve 20 percent resident participation in programs that promote the production, distribution, purchase, and consumption of food that is sourced within 200 miles.” Under this goal are objectives such as:

- Create and maintain a community garden with plots on City property that residents can use to grow food (opened in 2019).
- Expanding the city Food Pantry— which now serves produce three times per week during peak season.
- Expand Bowie Farmers Market on main street and Old Town Bowie (to provide wider range of products, and to accept SNAP payment).
- Including a pilot program in which residents can buy a plot to grow food.
- Create a vertical farm or food forest for residents to use.

The expanded supply of land zoned to allow for urban agriculture, paired with the proximity to active and preserved farmland in the rural and agricultural Reserve (including several farms that sell locally), the master plan area possesses assets that can help advance goals such as those above.



Source: M-NOPPC.

South Bowie Community Center offers a public community garden.

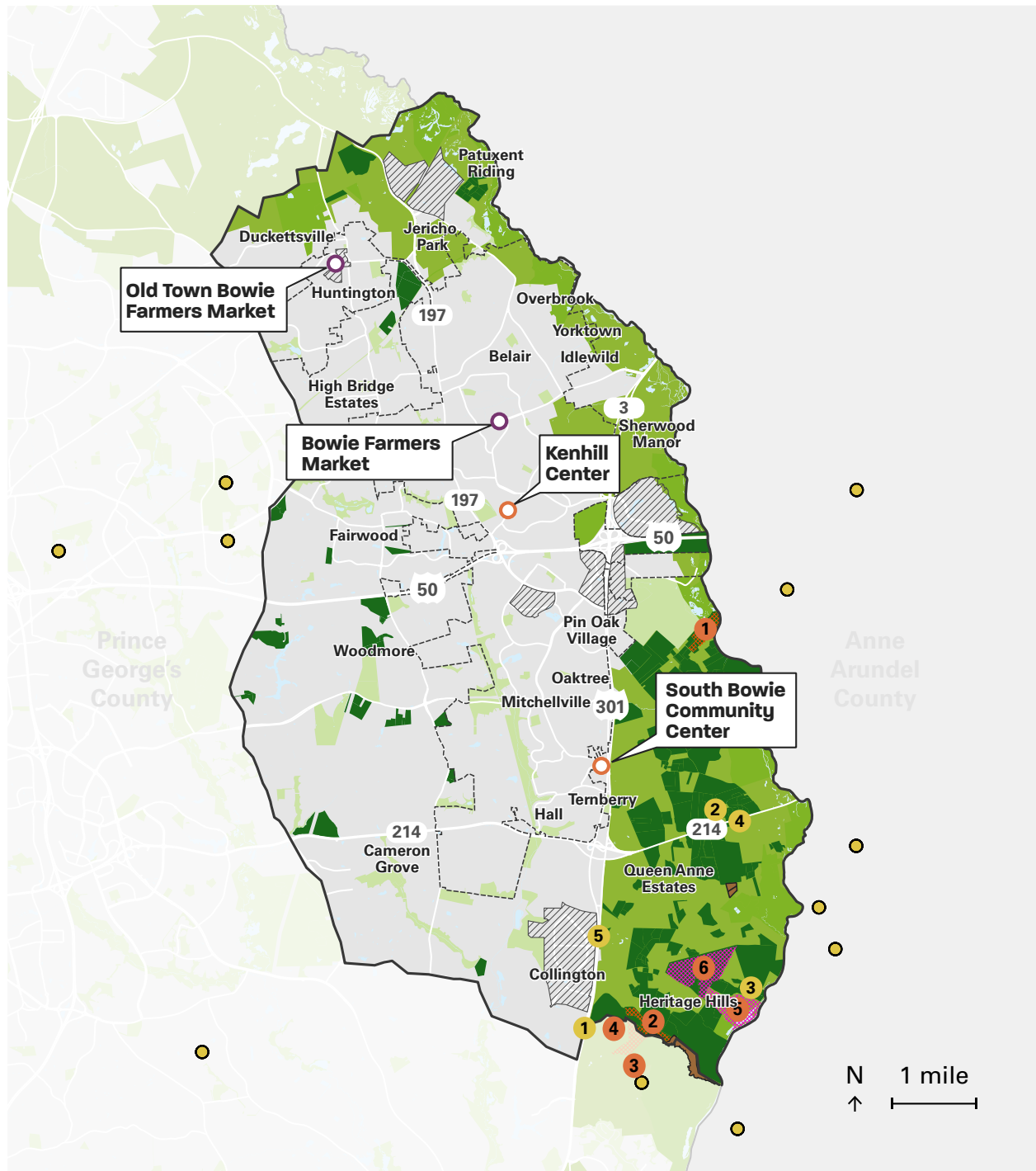
Figure 72. Farms Selling Locally in Bowie-Mitchellville and Vicinity

Pictured in Map 70. Agriculture and Farm Fresh Food in Bowie-Mitchellville and Vicinity.

Map ID	Name	Address	Zip	Website
1	Montpelier Farms	1720 Crain Hwy	20774	http://montpelierfarms.com
2	Queen Anne Farm, Inc.	18102 Central Ave	20716	http://www.queenannefarm.com
3	Cabin Creek Heritage Farm	18235 Clagett Landing Rd	20774	http://www.cabincreekheritagefarm.com
4	Ciminellis Ecoasis Garden Center*	18301 Central Ave	20711	http://www.ecoasisgardencenter.com/
5	Hall's Green Farm	506 Crain Hwy	20774	http://pickyourown.org/mdbalt.htm

Source: Maryland State Open Data.

Map 70. Agriculture and Farm Fresh Food in Bowie-Mitchellville and Vicinity



*Farms (2018) data is based on land use data from the Prince George's County Planning Department, and represents parcels recorded as Agricultural-Natural Resources, with Farm as the detailed land use type.



Source: U.S. Census Bureau, Johns Hopkins Center for a Livable Future.

AGRICULTURAL PRESERVATION

Bowie-Mitchellville and Vicinity's active farmland is concentrated largely in the southeastern quadrant of the master plan area, east of US 301 within the Rural and Agricultural Reserve. In addition to the Plan 2035 imperative to avoid new development in the reserve (which is outside of the County's growth boundary), some farms within the master plan area are preserved under state and County preservation programs.

The Maryland Agricultural Land Preservation Foundation (MALPF) is a program administered by the state, which purchases agricultural easements on prime farmland and restricts development of this land in perpetuity. Statewide, 300,916 acres of farmland have been permanently preserved through MALPF easements. About 168 of those acres preserve farmland that falls within the master plan area.¹¹

The Historic Agricultural Resource Preservation Program (HARPP) is a program of Prince George's County which preserves farmland that does not qualify for preservation under state-level programs like MALPF. It is managed by the Prince George's County Soil Conservation District. HARPP Easements must fall within the County's rural tier and be a minimum of 35 acres. The program has preserved over 1,850 acres of farmland, over 300 of which are in Bowie-Mitchellville and Vicinity.¹²

In addition to the MALPF and HARPP easements in the master plan area, there are four protected rural legacy parcels: two abut or fall within the MALPF easement on Swanson Road Spur, and the other two form an approximately 11-acre lot on Queen Anne Road, just north of the Clagett Landing property.

11 "Welcome MALPF." n.d. Accessed May 19, 2020. <https://mda.maryland.gov/malpf/pages/default.aspx>

12 "HARPP." 2019. Prince George's Soil Conservation District. September 10, 2019. <https://www.pgscd.org/agricultural-land-preservation/harpp/>.

Figure 73. Agricultural Easements in Bowie-Mitchellville and Vicinity

Pictured in Map 70. Agriculture and Farm Fresh Food in Bowie-Mitchellville and Vicinity.

Map ID	Tax ID	Farm Organization	Address	Area (Acres)	Easement Type
1	0771782	Private	17714 Mill Branch Pl	61.482	MALPF
2	3023918	Private	17130 Swanson Road Spur	37.2	MALPF
3	3023470	Private	17130 Swanson Road Spur	33.86	MALPF
4	3130325	Private	17130 Swanson Road Spur	35.78	MALPF
5	0735993	Family Trust	17901 Clagett Landing Rd	129.83	HARPP
6	0718882	Clagett Landing	17500 Clagett Landing Rd	173.56	HARPP

Source: GIS Data Catalogue, Prince George's County Planning Department.

Senior Care and Services

Approximately 25 percent of the master plan area population is 65 years old and above. As discussed earlier in this report, the senior population represents the fastest growing segment of Bowie-Mitchellville and Vicinity, with the segment aged 65–74 growing most rapidly in recent years.

The master plan area includes seven senior housing facilities. Six of them are located in, or adjacent to, Bowie Town Center. All are located within a 10-minute drive of a supermarket.

The total capacity of all dedicated senior housing in Bowie-Mitchellville and Vicinity is 1,032. One of the senior living facilities, Bowie Commons, offers subsidized senior housing. Bowie Commons is reserved for Section 8-qualified elderly or disabled individuals, and has a capacity of 43 residents.

The master plan area has one senior center, the Bowie Senior Center, which offers a range of services and programming for older residents, including social events, recreational activities, educational programs, and a congregate lunch program. The senior center also provides transportation services for seniors, including door to door pick-up and drop-off by appointment.¹³

The medical center at Largo, featuring Largo Medical Center and University of Maryland Capital Regional Health, is a resource for many senior residents in Bowie-Mitchellville and Vicinity. The complex is only about a 10-minute drive from Cameron Grove, the master plan area's largest retirement community and concentration of senior residents.

¹³ More information available at: <https://www.cityofbowie.org/563/Transportation-for-Seniors>

Figure 74. Senior Housing in Bowie-Mitchellville and Vicinity

Pictured in Map 71. Senior Residents and Resources.

Name	Address	City	Zip Code	Capacity	Subsidized Housing?
The Willows Senior Community	3850 Enfield Chase Ct	Bowie	20716	101	No
Bowie Commons	3909 New Haven Ct	Bowie	20716	43	Yes
Cameron Grove Adult Resort	13914 New Acadia Ln	Largo	20774	342	No
Tribute at Melford	17300 Melford Blvd	Bowie	20715	143	No
Pin Oak Village	16010 Excalibur Rd	Bowie	20716	220	No
Woodward Estate	14997 Health Center Dr	Bowie	20716	80	No
Evergreen Senior Community	3800 Enfield Chase Ct	Bowie	20716	103	No

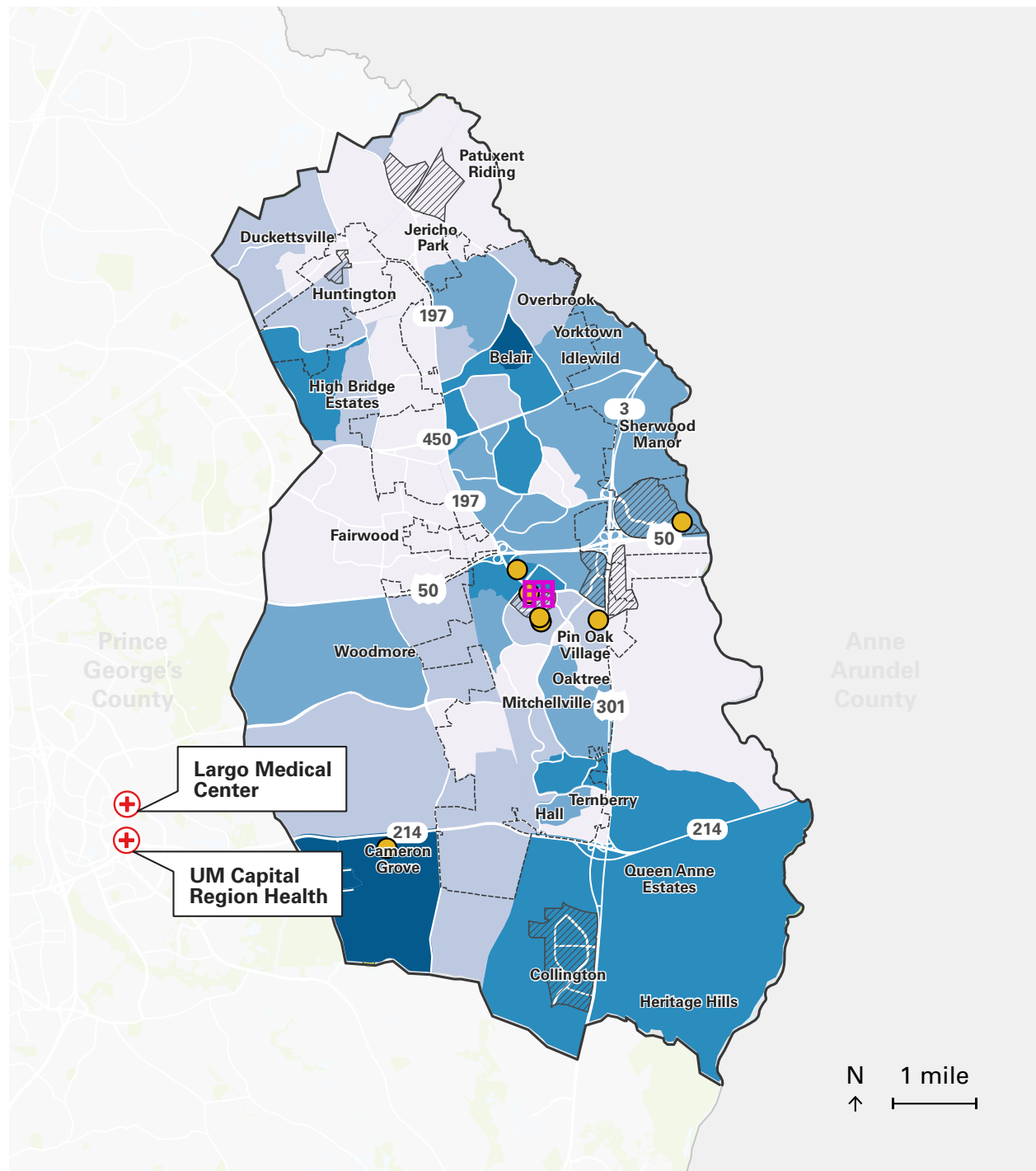
Source: GIS Data Catalogue, Prince George's County Planning Department.



Source: M-NCPPC.

Evergreen Senior Community.

Map 71. Senior Residents and Resources

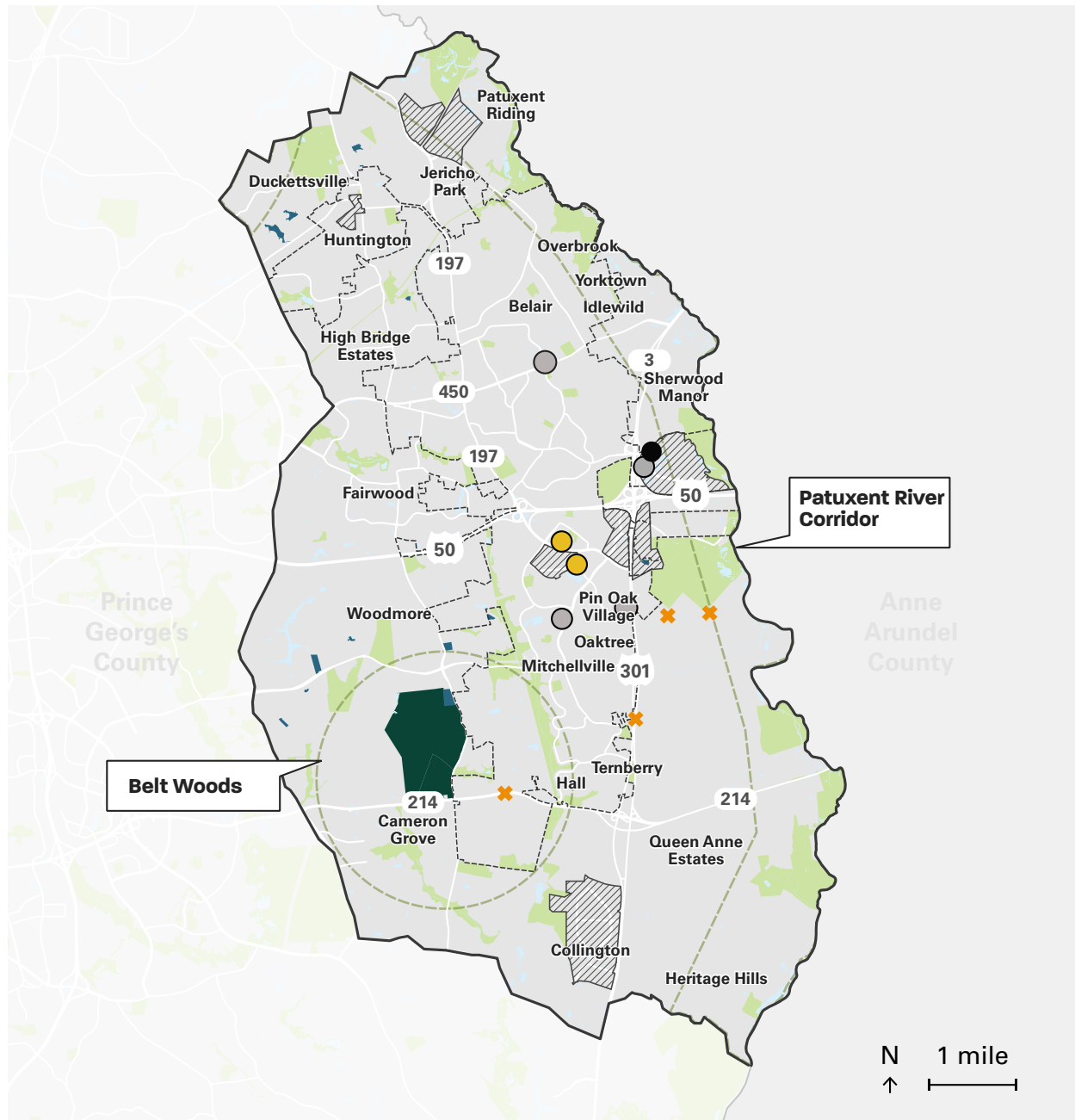


Source: U.S. Census Bureau, Johns Hopkins Center for a Livable Future.

Senior Population—% Age 65 and Above



Map 72. Sustainability and Environmental Features in the Master Plan Area



- | | | | |
|----------------------------------|---------------------------------------|------------------------------|---------------|
| LEED Certified Building (Gold) | LEED Certified Building (unspecified) | Clean Water Partnership Area | Focus Area |
| LEED Certified Building (Silver) | Solar Array | Special Conservation Areas | City of Bowie |
| | | Belt Woods Natural Area | |

Source: U.S. Census Bureau, Johns Hopkins Center for a Livable Future.

Sustainability and Environment

Plan 2035 envisions sustainability as a pillar of future planning and development in Prince George's County. The plan defines sustainability as "meeting the needs of present generations without compromising the ability of future generations to meet their needs." Sustainability is key to the health of residents, the survival of plants and animal species, and a vibrant local economy.

Bowie-Mitchellville and Vicinity has made strides in recent years in establishing and expanding sustainability programs, including renewable energy generation, recycling, community gardens, and stormwater management. These efforts are most concentrated and well-documented within the City of Bowie, which is guided by its own Sustainability Plan and Climate Action Plan, and also manages its own recycling, waste, and sewage.

The City of Bowie has made an effort to expand sustainable building design and renewable energy infrastructure in accordance with the plans above. In addition to the four nonresidential solar arrays seen in Map 72. Sustainability and Environmental Features in the Master Plan Area, approximately 1,514 houses in City of Bowie have solar panels as of 2018.¹⁴

Leadership in Energy and Environmental Design (LEED) is a global rating system for green building. LEED provides a framework for the development of healthy, efficient, and low-impact buildings of all kinds. LEED-certified buildings present a range of benefits, including promoting the health of residents, workers, and visitors due to environmental quality standards, lowered maintenance costs, and reduced energy and water usage. There are currently at least seven LEED-certified businesses (hotels, retail, industrial buildings, and office spaces) in the master plan area. This includes the City of Bowie Park Maintenance Facility on Mitchellville Road. The City of Bowie reports 13 LEED-certified buildings within municipal boundaries as of 2018.¹⁵

While many sustainability related initiatives in the master plan area are City of Bowie programs, Bowie-Mitchellville and Vicinity is included in County-managed sustainability and conservation initiatives, such as the Clean Water Partnership and special conservation areas.

CLEAN WATER PARTNERSHIP (CWP)

The Clean Water Partnership program is a community-based public private partnership (CBP3) between Prince George's County Department of the Environment and Corvias Group. The initiative began in 2014 as an innovative way to address the County's challenges with federal stormwater regulatory compliance. The partnership includes a stormwater compliance program where faith-based and nonprofit organizations can take advantage of incentives to allow small stormwater retrofit projects on their properties. The CWP includes a procurement program to engage local, small, minority, and women-owned businesses in implementing stormwater management projects. The program also engages schools in educational programming.

Several stormwater management projects have been conducted or are in planning stages in Bowie-Mitchellville and Vicinity as part of the CWP, including public ponds, stream restoration, wet pond excavation, and stormwater conceptual plans. As of January 2020, the Prince George's County Planning Department reports 13 active projects within the master plan area and, according to the CWP, many others are in the planning phase. Sites include the Presbyterian Church of Bowie, Tall Oaks High School, and Woodmore Elementary School—which is one of eight schools in the County selected to receive a new outdoor classroom as part of the program's Treating and Teaching Program.

Figure 75. Solar Energy Projects in City of Bowie (2016–2019)

Project Title	Description	Address	Year
PR24 Solar Energy System Project	Solar Array	17205 Mill Branch Pl	2019
PR97 Solar Energy System Project	Solar Array	3111 Mill Branch Rd	2019
Queen Anne Bridge SES	2 MW Community Solar Energy Generating System	17800 Queen Anne Bridge Rd	2018
City of Bowie Solar Array Project	Two Solar Arrays Generating 4979.52 KW	18509 Central Ave	2016

Source: The City of Bowie Planning and Community Development Department.

¹⁴ "City of Bowie State of the Environment Report." 2018. Department of Planning and Community Development. <https://www.cityofbowie.org/ArchiveCenter/ViewFile/Item/2453>.

¹⁵ Ibid.



BOWIE SUSTAINABILITY PLAN (2016)

Adopted in 2016, the Bowie Sustainability Plan outlines objectives and actions to promote environmental sustainability. A wide range of themes are covered, including transportation, health and wellness, jobs and business, and energy and climate. City of Bowie publishes a Sustainability Plan Update each year to report on the city's progress toward achieving plan objectives. Some highlights from the 2019 update include:

- The city recycled 9,175 tons in 2018.
- City renewable energy systems now equal 82 KW total. Annual generation is about 98 MW hours.
- Green Bowie Business Certification Program grew to 10 certified green businesses.
- Opening of a community garden with plots available for sale to residents.
- Native tree planting rebate program and tree planting workshop held.
- A bike rack inventory, including the installation of four new bike racks.
- Engagement and educational events, such as a rain barrel sale and “bayscaping” workshop, and a Lightbulb Exchange program.

The full 2019 plan update is available at: <https://www.cityofbowie.org/DocumentCenter/>.

SPECIAL CONSERVATION AREAS

These areas, designated in the 2005 *Approved Countywide Green Infrastructure Plan*, are deemed to be of special countywide significance and in need of ecological preservation. The Prince George's County Planning Department's data on these conservation areas was last updated in 2007.

The Belt Woods Natural Environmental Area

The Belt Woods Natural Environmental Area is a special conservation area currently owned by the State of Maryland and managed by the Western Shore Conservancy. Belt Woods has ecological features of great importance not only to the County, but to the wider region, the nation, and beyond. According to the Trust for Public Land, “some of the deepest, richest soils in Maryland and the last stand of virgin hardwood forest on the Atlantic coastal plain” can be found at Belt Woods. Additionally, the site is recognized internationally as a critical nesting site for neotropical songbirds.¹⁶ Belt Woods is recognized by the National Park Service as a national natural landmark.

The 2017 *Approved Prince George's County Resource Conservation Plan: A Countywide Functional Master Plan* stresses that development surrounding Belt Woods must be highly sensitive to the protection of the area's flora and fauna.

Patuxent River Corridor

The Patuxent River Corridor is known as one of the most important greenways in the State of Maryland. Since the passage of the Maryland Patuxent River Watershed Act in the 1960s, preservation of the ecosystems lining the Patuxent River has been a mandate for several counties in the state, including Prince George's County. One of the key actors in the protection of the Patuxent River includes the Patuxent River Commission, formed in 1984, the commission produces an annual action plan that includes immediate and long-term strategies to improve the river's ecosystem. The County is an important stakeholder in implementing the action plan give its location and because parts of the corridor are owned by M-NCPPC. Other parts are owned by the Maryland Department of Natural Resources. Parts of the corridor are owned by M-NCPPC, while others are owned by the Maryland Department of Natural Resources.

In Bowie-Mitchellville and Vicinity, the Patuxent River Corridor runs through the east edge of the master plan area, designated as Rural and Agricultural preserve area, where development is discouraged, and outside the public water and sewage service area.

The Bowie-Mitchellville and Vicinity Master Plan Staff Preliminary Environmental Existing Conditions Report, completed in January 2020, offers further analysis of environmental conditions in the master plan area, including watersheds and water quality, the 100-year floodplain, soil information, impervious surfaces, and noise, air, and light pollution.

16 Trust for Public Land. <https://www.tpl.org/our-work/belt-woods>.

Discussion of Challenges and Opportunities

ACCESS TO PARKS AND GREEN SPACE

Bowie-Mitchellville and Vicinity presents excellent access to parks and green space for residents, as demonstrated by the high percentage of green space per capita, and the multitude of parks, trails, and natural preserves in the master plan area. A very high percentage of residents can access parks and open space via car, but considerably fewer have easy access by foot or by bike. This relates to the broader challenge in the master plan area of automobile dependence (discussed at greater length in the Transportation and Mobility section). Reliance on the automobile to reach outdoor space presents a challenge to health of communities in the master plan area. Expanding pedestrian and biking infrastructure and considering park access in future residential development in focus areas may help encourage more outdoor activity and access for residents.

AGRICULTURE AND FRESH FOOD ACCESS

The master plan area has many assets related to access to fresh food, including farms in and nearby the area that sell locally, and the presence of two farmers markets. The City of Bowie has also made progress toward its food sustainability goals by establishing a community garden and has plans to establish other local agricultural sources such as vertical farms/food forests. However, Bowie-Mitchellville and Vicinity has low access to fresh and healthy food by foot or by bike, with less than a tenth of residents living within a 10-minute walk of a supermarket. Future mixed-use planning that concentrates residential and commercial uses is an opportunity to encourage more active means of transportation for resident food needs, while supporting the master plan area's larger objectives to encourage healthy lifestyles and lessen environmental impact.

LOW SUPERMARKET ACCESS AREAS (LSAs)

Identified low supermarket access areas may present an opportunity to improve health outcomes through better access to healthy food, while bringing new retail to key corridors or nodes in the master plan area, particularly the BSU/MARC Station area and Old Town Bowie which

have limited nearby fresh food options. These nodes make up the southern portion of a large LSA, which presents an opportunity to provide needed food sources.

SENIOR POPULATION

The growing senior population in Bowie-Mitchellville and Vicinity presents both challenges and opportunities. One opportunity is the high concentration of senior living facilities and services in and around the Bowie Town Center, which can facilitate aging in place for older residents, and allows for more concentrated services and programming. One challenge for future planning efforts includes that of creating multi-generational centers to fulfill the changing needs and demands of aging adults, while addressing the needs of a broader range of residents.¹⁷

SUSTAINABILITY WITHIN AND OUTSIDE OF CITY OF BOWIE

City of Bowie monitors progress toward environmental sustainability goals, and has a Green Team devoted to carrying out these goals. Planning areas outside of the City of Bowie do not have the same degree of local data and monitoring of progress toward these objectives. Conversely, residents and businesses within City of Bowie may not qualify for certain environmental incentives and rebate programs through the County (and vice versa). For example, City of Bowie residents may participate in programs such as the Tree-bate rebate program for planting trees, in addition to other sustainability programs such as those listed under "Bowie Sustainability Plan" on page 204.¹⁸ Conversely, the County's Rain Check Rebate Program reimburses applicants for the installation of approved stormwater management practices, but is not available within City of Bowie, which manages its own stormwater.¹⁹ Coordination between City of Bowie and the County presents an opportunity for more effective goal-setting and tracking of progress toward environmental aims.

17 As a case study, see the Northtown Branch of Chicago Public Library, which features senior living and programming: <https://www.marketwatch.com/story/boomers-are-reinventing-retirement-housing-imagine-galleries-walkability-and-multi-age-communities-2019-05-22>.

18 Learn more about the Tree-bate program at: <https://www.cityofbowie.org/treerebates>.

19 See the Chesapeake Bay Trust: <https://cbtrust.org/grants/prince-georges-county-rain-check-rebate/>.





South Bowie Community Center.

Source: M-NCPPC.

2.8 Public Facilities

Does Bowie-Mitchellville and Vicinity have the public facilities needed to serve its current population?



This section examines public facilities in the Bowie-Mitchellville and Vicinity master plan area. Community facilities may be spaces for learning and social gathering like libraries and community centers; or the infrastructure that makes communities safe and healthy, like fire and police stations, hospitals, and health clinics; schools too, are important community facilities.

This section asks: Does Bowie-Mitchellville and Vicinity have the public facilities needed to serve its current population? In anticipation of population growth, will these public facilities meet the needs of future generations?

All types of public facilities in Bowie-Mitchellville and Vicinity are concentrated in older existing communities, particularly within the City of Bowie. This means that these areas The City of Bowie and

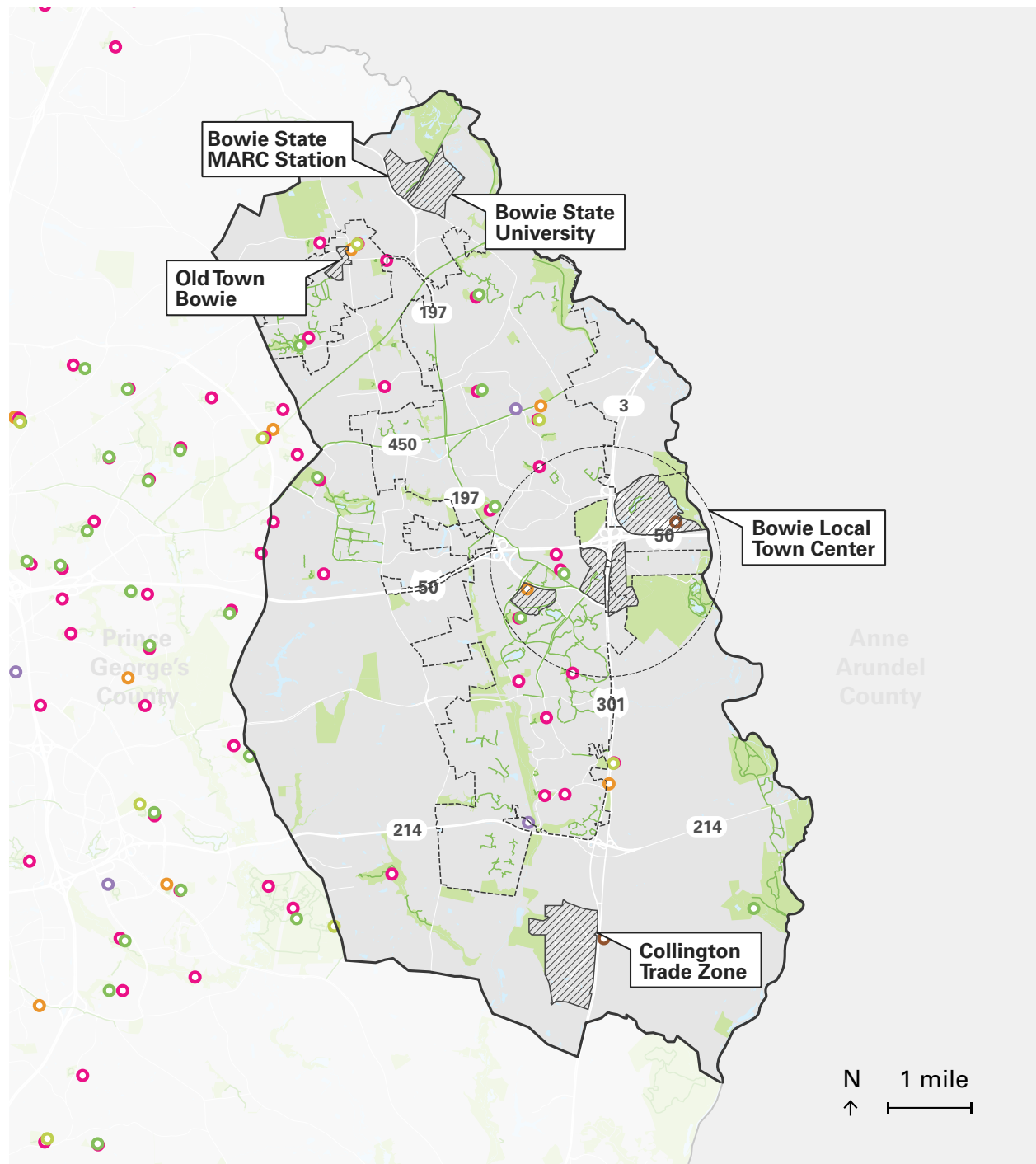
older established residential communities have better access to community these facilities of all types.

This poses a challenge for new development, which is largely of lower density and taking place outside of existing residential communities, mostly along the Church Road corridor and east of US 301. These Low-density new residential areas outside of the City of Bowie, in particular along the Church Road corridor and east of US 301, have relatively less access to community facilities than residents of in older communities the City of Bowie.

COVERED IN THIS SECTION:

- Community Infrastructure, libraries, community centers, fire stations, and police beats
- Hospitals and health clinics
- Public schools

Map 73. Public Facilities in the Bowie-Mitchellville and Vicinity Master Plan Area

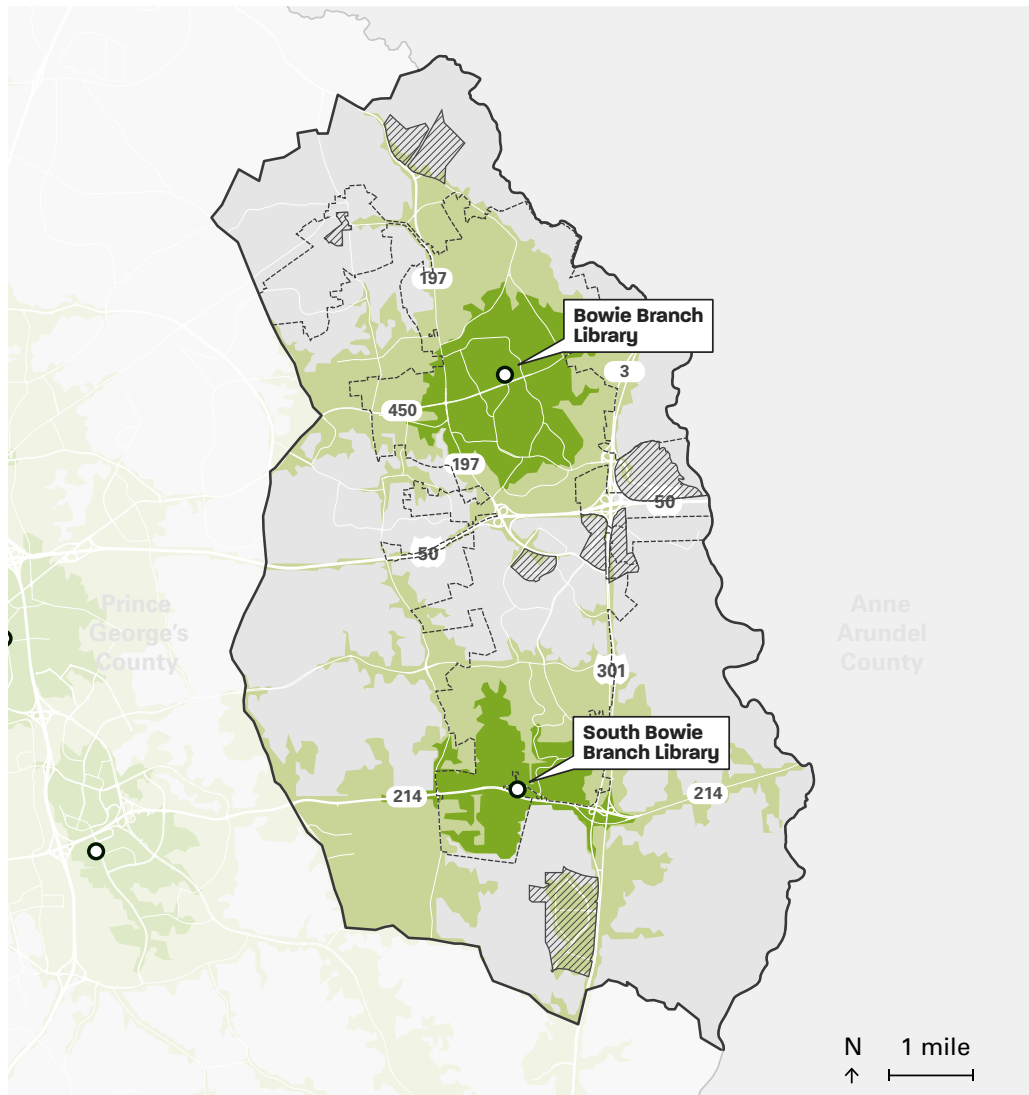


Public Facilities






- | | | | | |
|------------------|----------------|--------------|--------------|---------------|
| Library | Fire Station | Picnic Areas | Public Parks | Focus Area |
| Community Center | Police Station | Playgrounds | Trails | City of Bowie |

Source: GIS Data Catalogue, Prince George's County Planning Department.

Map 74. Library Access in the Bowie-Mitchellville and Vicinity Master Plan Area



Library Access

-  Library
-  Library 10-Minute Walkshed by Bicycle
-  Library 10-Minute Travelshed by Car
-  Focus Area
-  City of Bowie

Source: GIS Data Catalogue, Prince George's County Planning Department.

Community Infrastructure

LIBRARIES AND COMMUNITY CENTERS

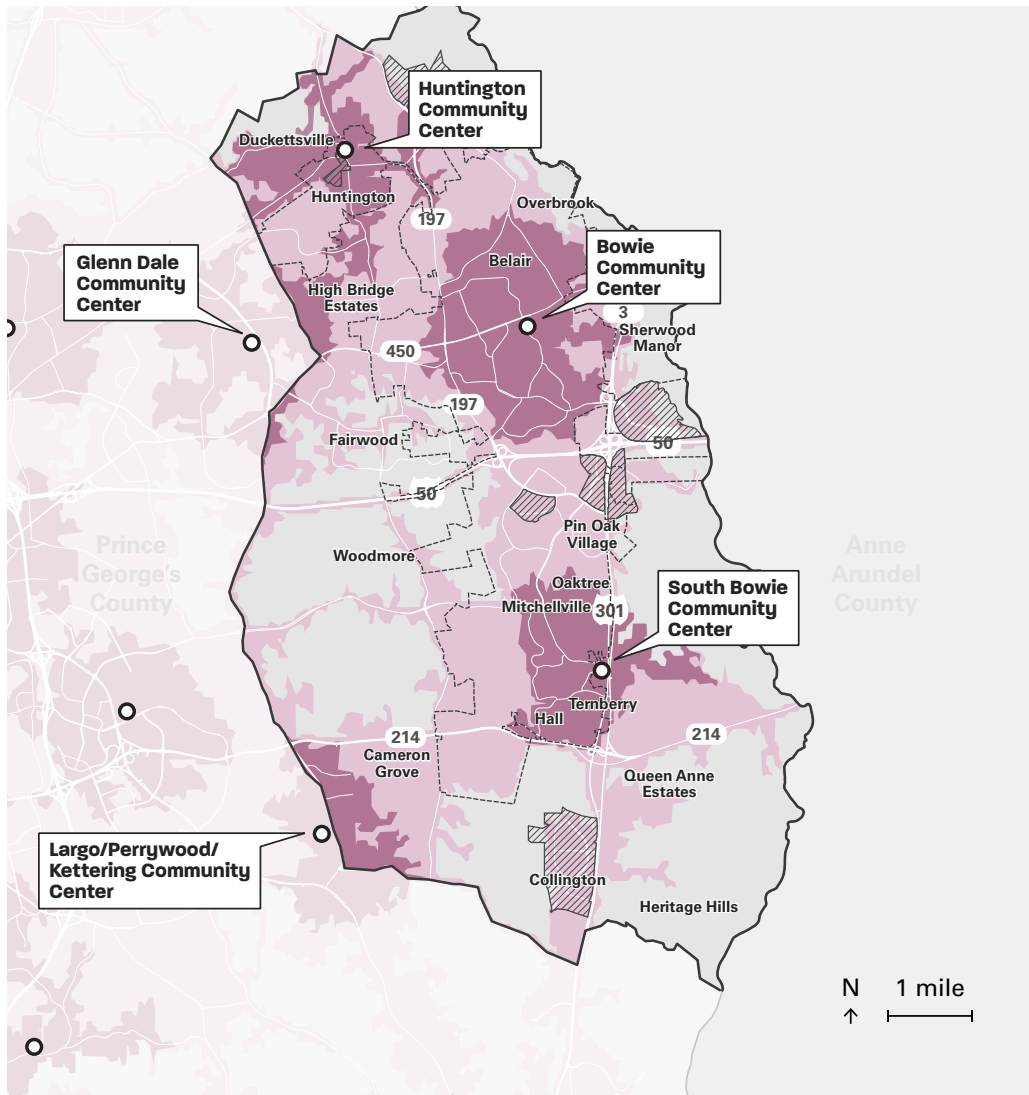
The master plan area is home to two libraries, seen in Map 74. Library Access in the Bowie-Mitchellville and Vicinity master plan Area. This map displays the areas accessible within 10 minutes by bike and 10 minutes by car for the libraries in the master plan area.

Examining the map above, we find that the City of






Bowie has the best access to libraries, with much of the city able to access a library within 10 minutes by bike. Communities outside of the City of Bowie have good access to libraries by car.

There are similar levels of access for community centers in the Bowie-Mitchellville and Vicinity master plan area, where most of the City of Bowie and older

Map 75. Community Center Access in the Bowie-Mitchellville and Vicinity Master Plan Area



Community Center Access

-  Community Center
-  Community Center 10-Minute Walkshed by Bicycle
-  Community Center 10-Minute Walkshed by Car
-  Focus Area
-  City of Bowie

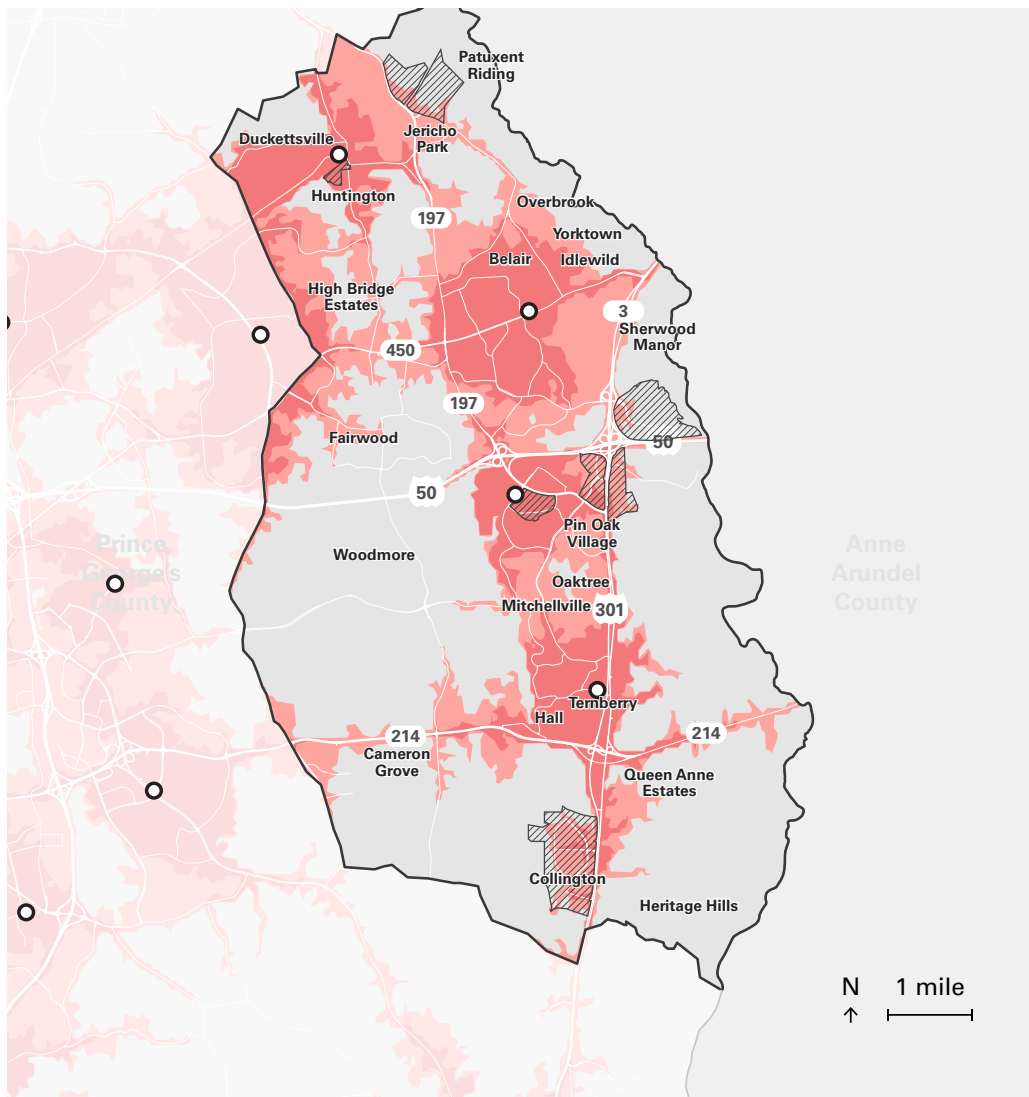
Source: GIS Data Catalogue, Prince George's County Planning Department.

existing residential communities have good access to the three community centers in the master plan area. Most residents of these areas are within a 10-minute bike ride of a community center and nearly all residents of the area are within a 10-minute car ride of the community centers. This is by design—community centers are located in areas where there is a critical mass of population, such as Bowie.

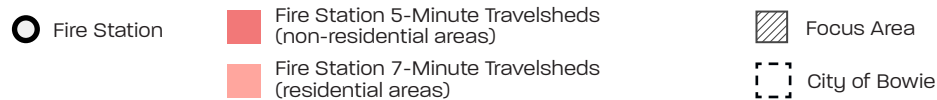
HEALTH AND SAFETY

Map 76 examines the distribution of Fire Stations in Prince George's County and the master plan area. Here, we examine the spatial coverage of the master plan area within five- and seven-minute travelsheds by vehicle, from the fire stations. The target response travel time for emergency services is defined by the

Map 76. Fire Station Travelsheds in Prince George's County and Bowie-Mitchellville and Vicinity Master Plan Area



Fire Station Access

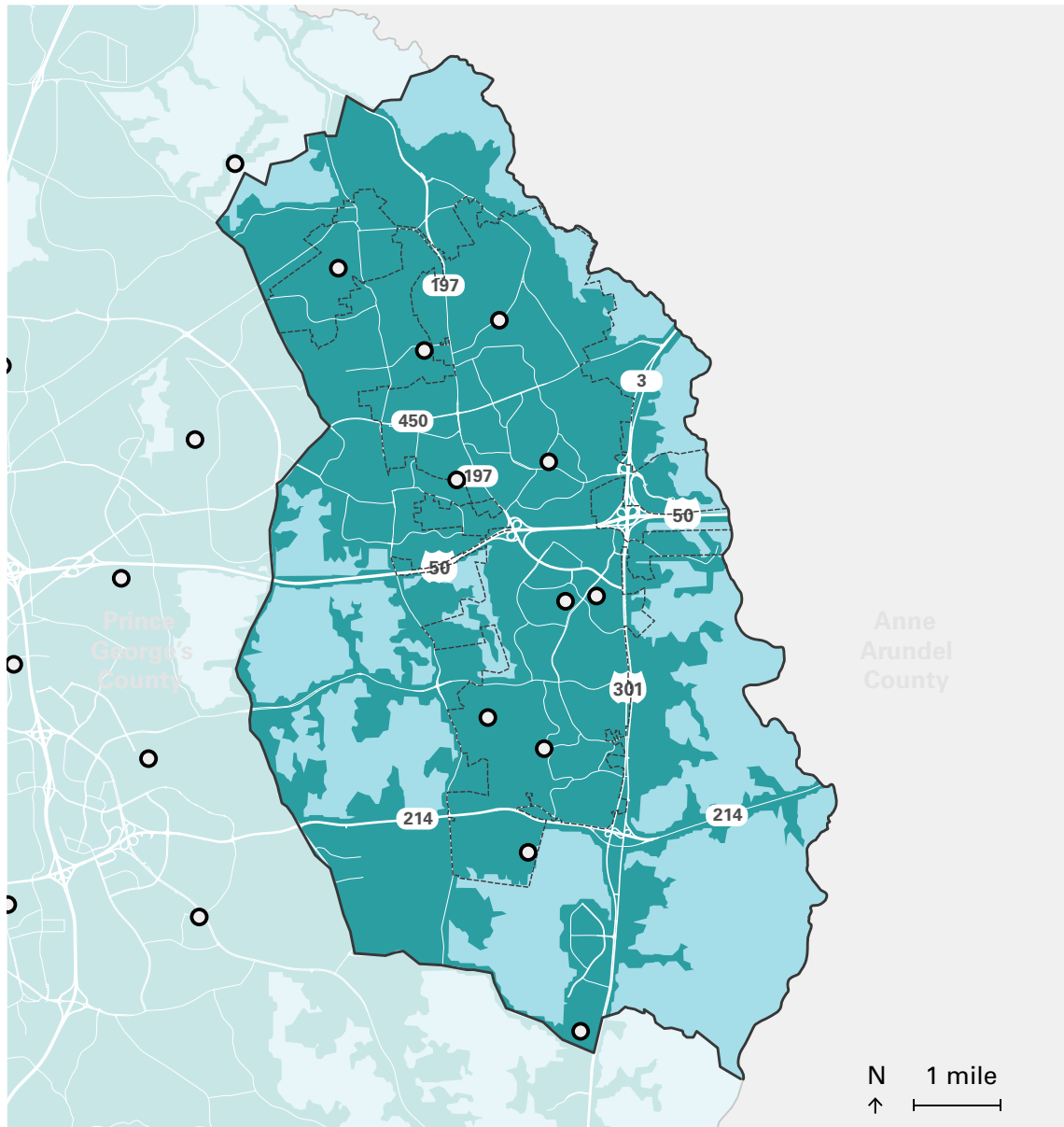


Source: GIS Data Catalogue, Prince George's County Planning Department.

National Fire Protection Association guidelines as 320 seconds, or 4 minutes. The Prince George's County Fire/EMS Department (PGFD) has set a maximum of five minutes as the target time for emergency services to arrive to nonresidential areas. Prince George's County strives to ensure that all residential emergency services arrive within a maximum of seven minutes.

As with community centers and libraries, we find that the City of Bowie is better covered within these four- and seven-minute travel areas than areas outside of the City of Bowie in the master plan area. As a result of this discrepancy, the fire department has identified three potential sites for new fire stations within the master plan area, all three in the Church Road corridor.

Map 77. Police Beats in Prince George's County and Bowie-Mitchellville and Vicinity Master Plan Area



Police Beat Access

- Police Beat
- Police Beat 10-Minute Travelshed (emergency)
- Police Beat 25-Minute Travelshed (non-emergency)
- City of Bowie

Source: GIS Data Catalogue, Prince George's County Planning Department.

The map above examines the coverage of Prince George's County and the master plan area by police beats, calculated using the center point of each police beat. As with fire stations, four- and seven-minute travel distances are used here.

As discussed above, the City of Bowie is better covered by police beats, with large sections of the master plan area—in the Church Road corridor and east of US 301—poorly covered by these Police Beats.



Source: M-NOPPC.

University of Maryland Bowie Health Campus.

The City of Bowie and older established residential communities have better access to community facilities of all types.

Healthcare Facilities

HOSPITAL ACCESS

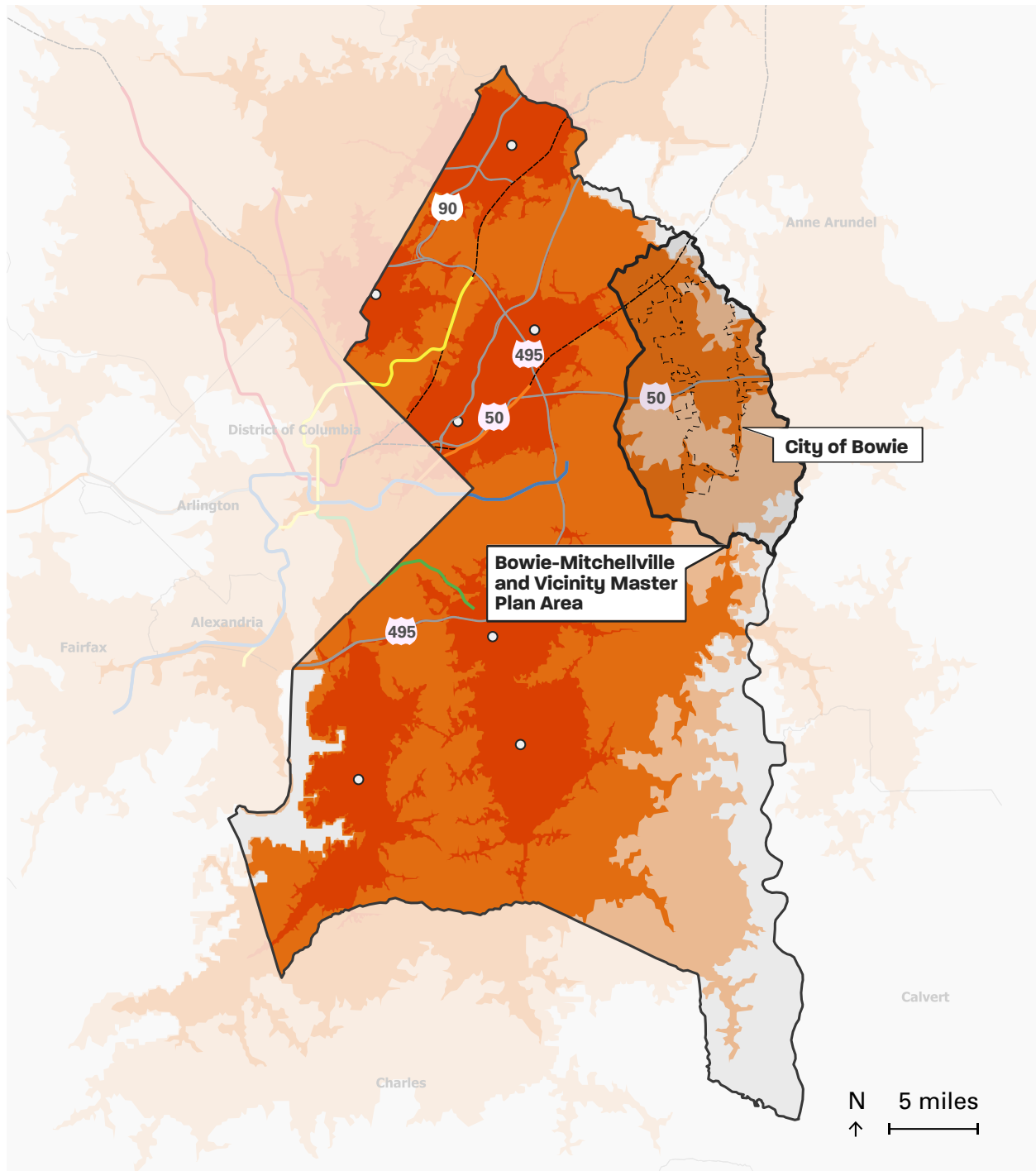
According to surveying conducted by the Pew Research Center, the average travel time by car to a hospital is about 12 minutes for residents of suburban areas and 17 minutes for residents of rural areas.¹

There are no full-service hospitals located within the master plan area. However, the Bowie Health







Clinic (University of Maryland Bowie Health Campus) in the Bowie Local Town Center is able to provide routine care and has a small emergency room, so it is included in the analysis above. Nearly all residents of the master plan area reside within the 21-minute threshold that is the national average for hospital access in suburban areas.

¹ Onyi Lam, Brian Broderick and Skye Toor. "How far Americans live from the closest hospital differs by community type." Pew Research Center. <https://www.pewresearch.org/fact-tank/2018/12/12/how-far-americans-live-from-the-closest-hospital-differs-by-community-type/>

Map 78. Hospital Access and EMT Travelshed in Prince George's County and Bowie-Mitchellville and Vicinity Master Plan Area

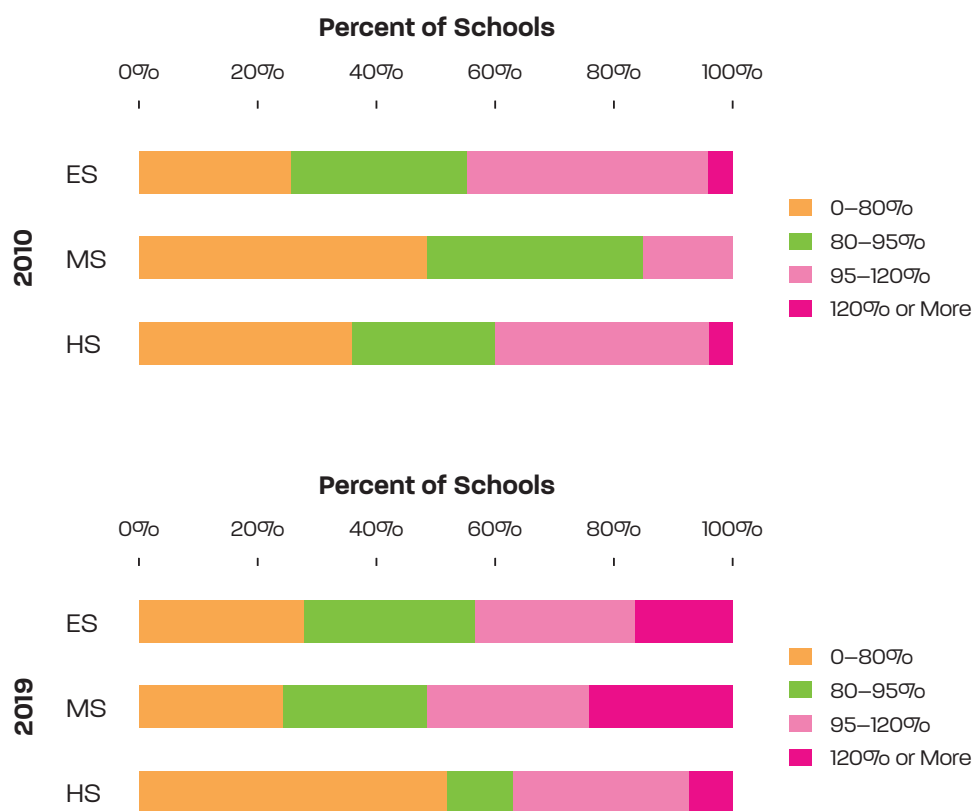


Hospital Access

-  Hospital
-  Hospital 12-Minute Travelshed by Car
-  Hospital 21-Minute Travelshed by Car
-  Hospital 30-Minute Travelshed by Car
-  Master Plan Area
-  City of Bowie

Source: GIS Data Catalogue, Prince George's County Planning Department.

Figure 76. School Utilization Rates in Prince George's County (2010–2018)



Source: Prince George's County Public Schools.

Schools

ENROLLMENT

Between 2010 and 2018, the utilizations of public schools in Prince George's County have diverged, with fewer schools within Prince George's County Public School's (PGCPS) target utilization range of 80 to 95 percent of state rated capacity (SRC). In particular the number of schools with utilizations above 100 percent has grown significantly, especially at the middle school level.

The maps on the following pages illustrate the utilization of PGCPS schools across the County. Bowie High School is one of only three high schools in the County within the target utilization range of 80 to 95 percent.

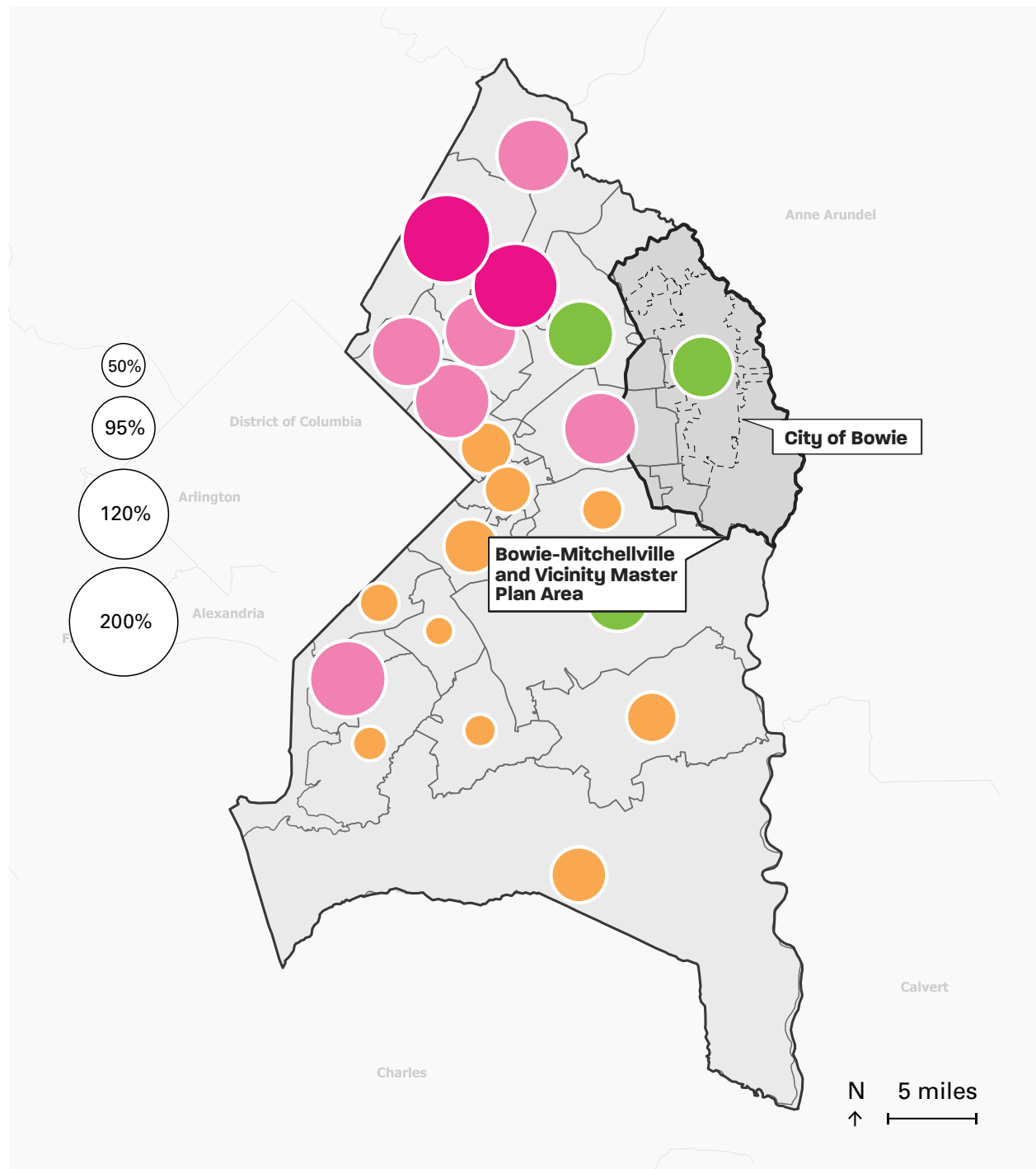
Map 81 examines the change in number of school-aged children by high school attendance area in Prince George's County. The Bowie High School attendance area has seen a decline of about 1,500 students between 2010 and 2018, the last year for which census

data is available. Adjacent high school attendance areas have seen similar patterns, with substantial declines in the number of school-aged children living within them.

The maps on the following pages examine the utilization rates of schools, which have attendance area boundaries overlapping the master plan area or are in the general vicinity of the master plan area. School utilizations are indicated by the color of their labels.

With the exception of three elementary schools, all schools in Bowie-Mitchellville and Vicinity are either within PGCPS's target utilization range of 85 to 100 percent or below 85 percent. A utilization rate below 85 percent is not considered desirable as it reflects under-enrollment and a suboptimal allocation of resources. This indicates that there is substantial opportunity to balance utilization rates across elementary schools within the master plan area. PGCPS is undertaking a comprehensive boundary study to address these

Map 79. High School Utilization Rates (2019–2020)

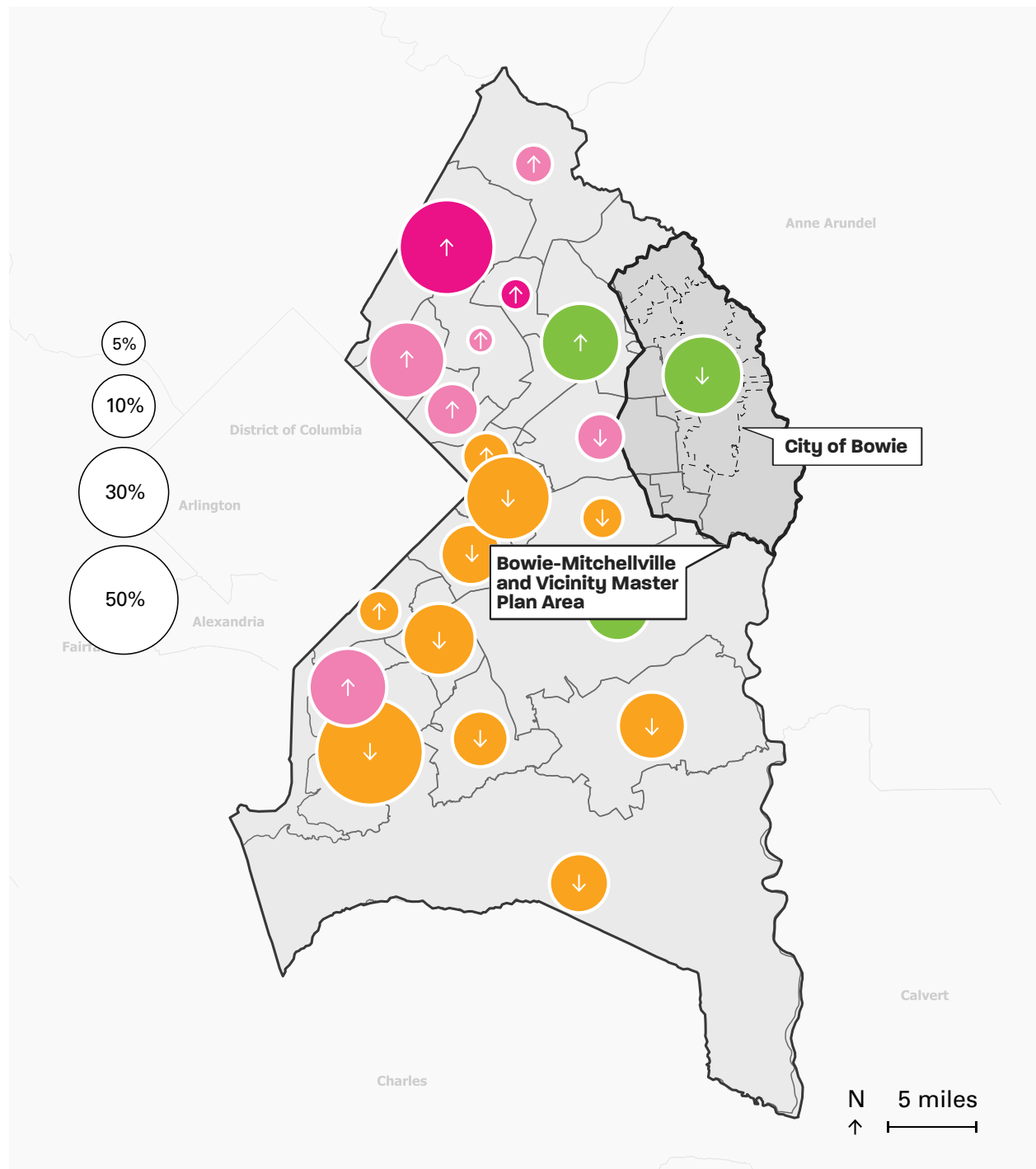


High School Utilization Rate



Source: Prince George's County Public Schools.

Map 80. Absolute Change in High School Utilization Rates (2010–2019)

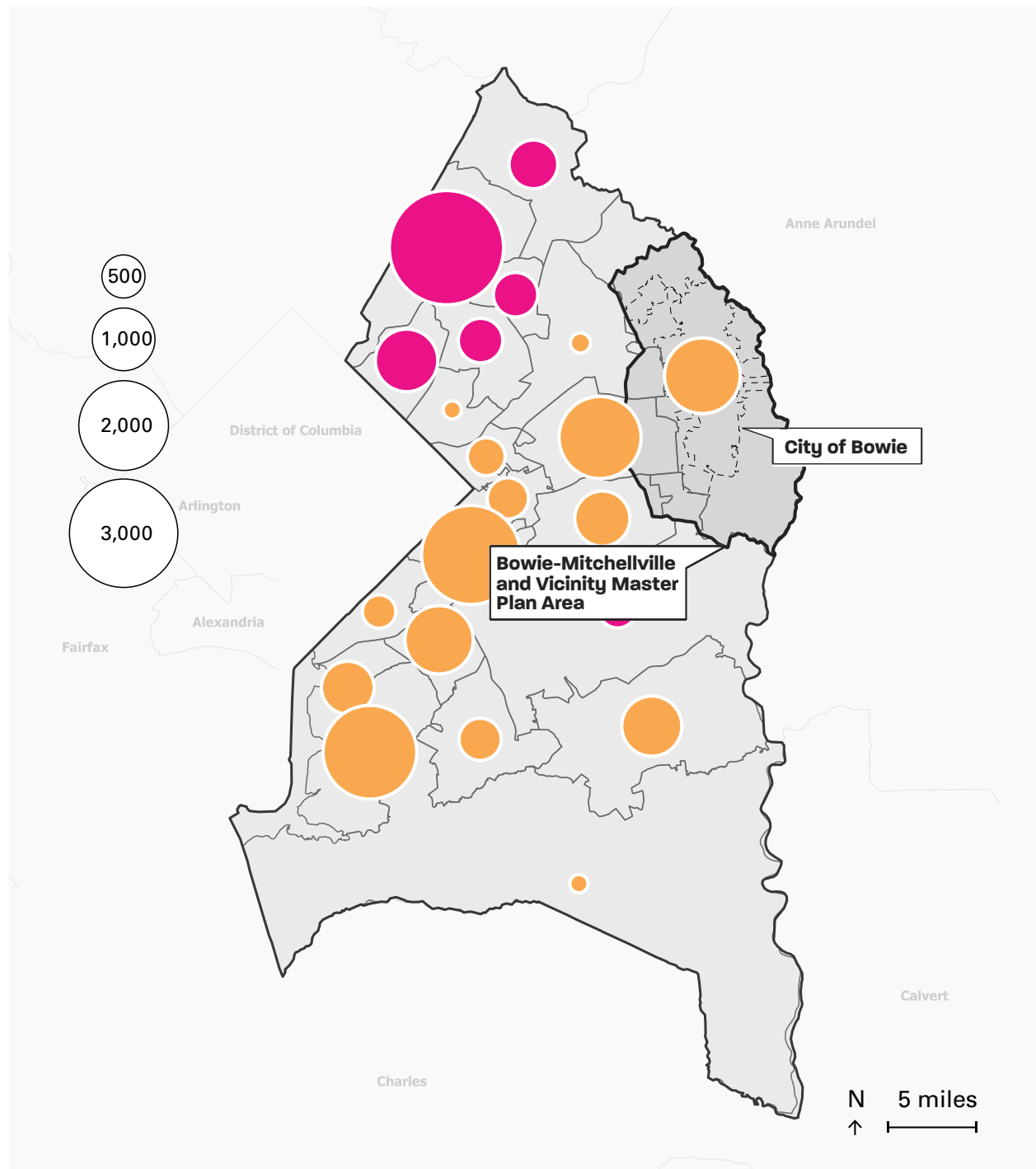


High School Utilization Rate



Source: Prince George's County Public Schools.

Map 81. Change in School-Aged Children by High School Attendance Area (2010–2018)



Source: ACS 5-Year Estimates.

High School Utilization Rate

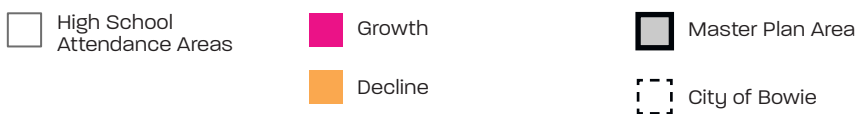


Figure 77. Elementary School Utilizations of Public Schools Serving the Master Plan Area

Schools	Grades	Utilization	
		2010	2019
Yorktown Elementary	K-5	81%	88%
Rockledge Elementary	K-5	116%	74%
High Bridge Elementary	K-5	100%	101%
Whitehall Elementary	K-5	109%	168%
Glenn Dale Elementary	K-5	98%	144%
Kenilworth Elementary	K-5	83%	86%
Tulip Grove Elementary	K-5	96%	76%
Heather Hills Elementary	K-5	111%	96%
Northview Elementary	K-5	95%	80%
Woodmore Elementary	K-5	74%	83%
Kingsford Elementary	K-5	98%	70%
Pointer Ridge Elementary	K-5	101%	50%
Perrywood Elementary	K-5	75%	74%

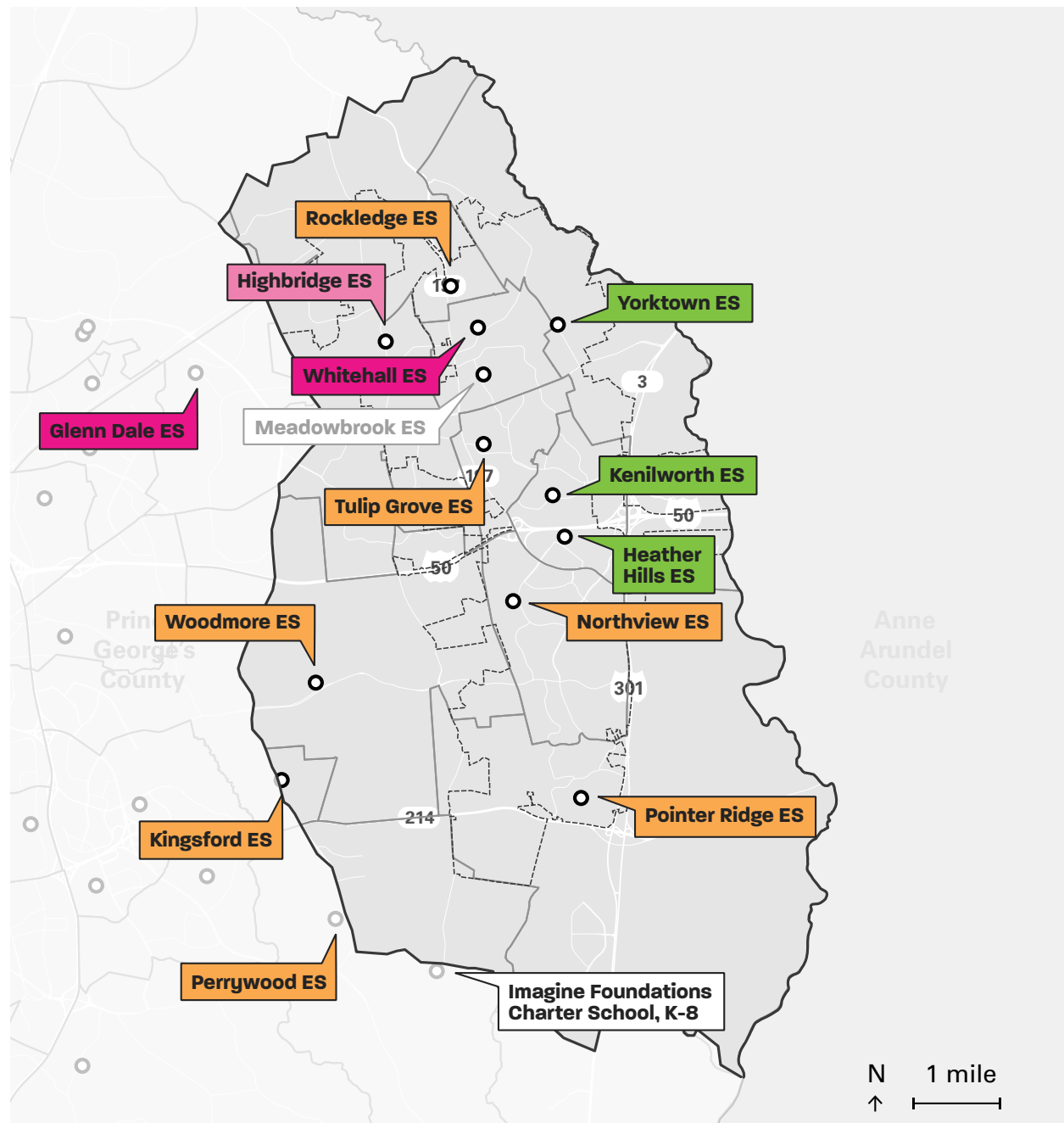
Source: Prince George's County Public Schools.

Figure 78. Middle and High School Utilization of Public Schools Serving the Master Plan Area

Schools	Grades	Utilization	
		2010	2019
Imagine Foundations at Leeland PCS	K-8	NA	NA
Robert Goddard Montessori	K-8	111%	46%
Thomas G Pullen	K-8	76%	83%
Samuel Ogle Middle	6-8	84%	95%
Benjamin Tasker Middle	6-8	93%	99%
Thomas Johnson Middle	6-8	100%	123%
Ernest Everett Just Middle	6-8	76%	95%
Kettering Middle	6-8	63%	84%
Bowie High	9-12	109%	88%
Duval High	9-12	73%	94%
Charles Herbert Flowers High	9-12	111%	104%
Tall Oaks High	9-12	58%	49%
Largo High	9-12	68%	64%
Dr Henry A Wise, Jr. High	9-12	102%	88%
Academy of Health Sciences At PGCC	9-12	NA	NA
International High School Largo	9-12	NA	106%

Source: Prince George's County Public Schools.

Map 82. Elementary School Utilization of Public Schools Serving the Master Plan Area

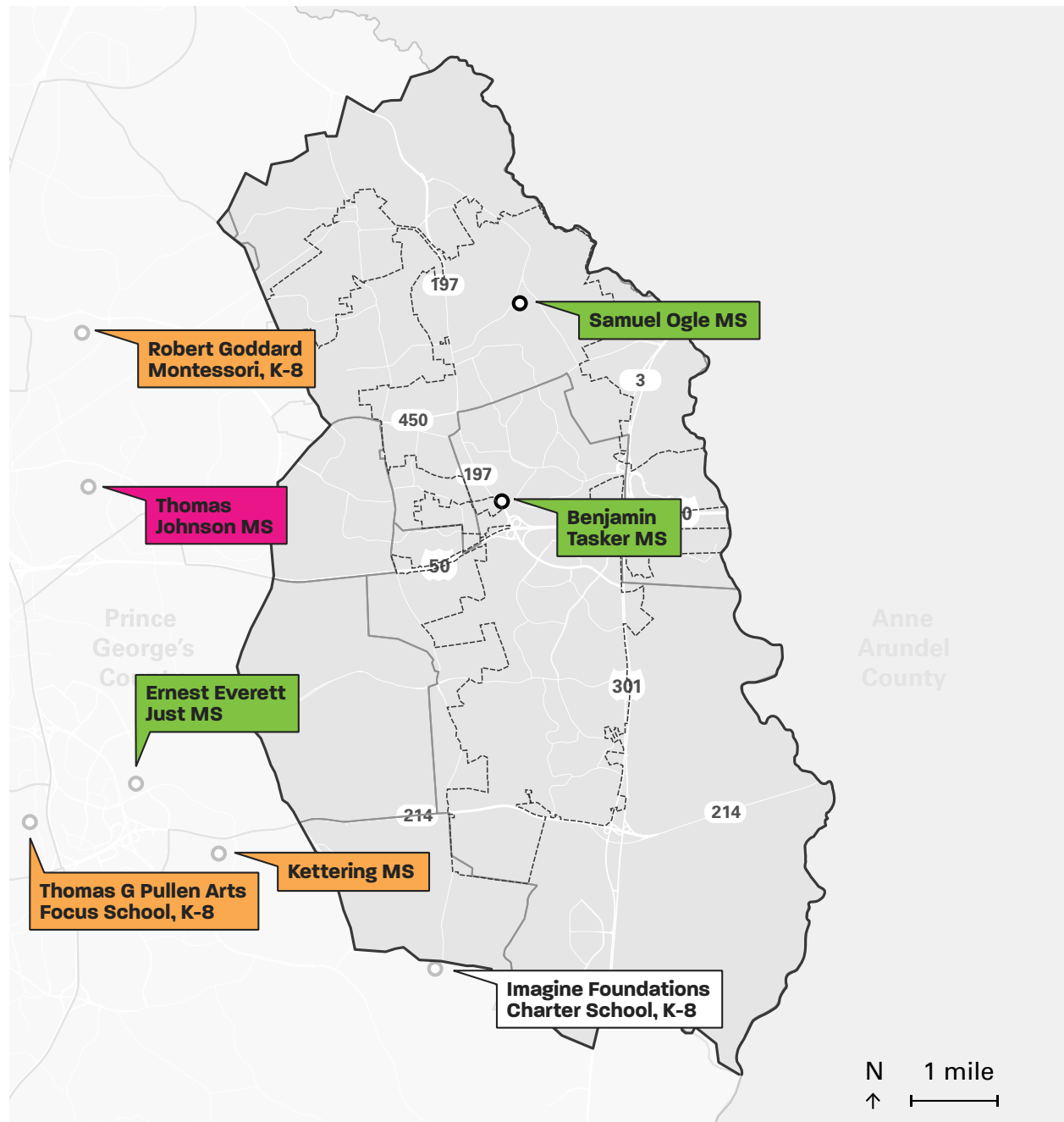


Elementary School Utilization Rate

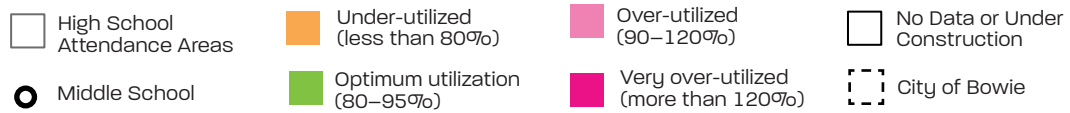
- | | | | |
|------------------------------|--------------------------------|-------------------------------------|-------------------------------|
| High School Attendance Areas | Under-Utilized (less than 80%) | Over-Utilized (90–120%) | No Data or Under Construction |
| Elementary School | Optimum Utilization (80–95%) | Very Over-Utilized (more than 120%) | City of Bowie |

Source: Prince George's County Public Schools.

Map 83. Middle School Utilization of Public Schools Serving the Master Plan Area

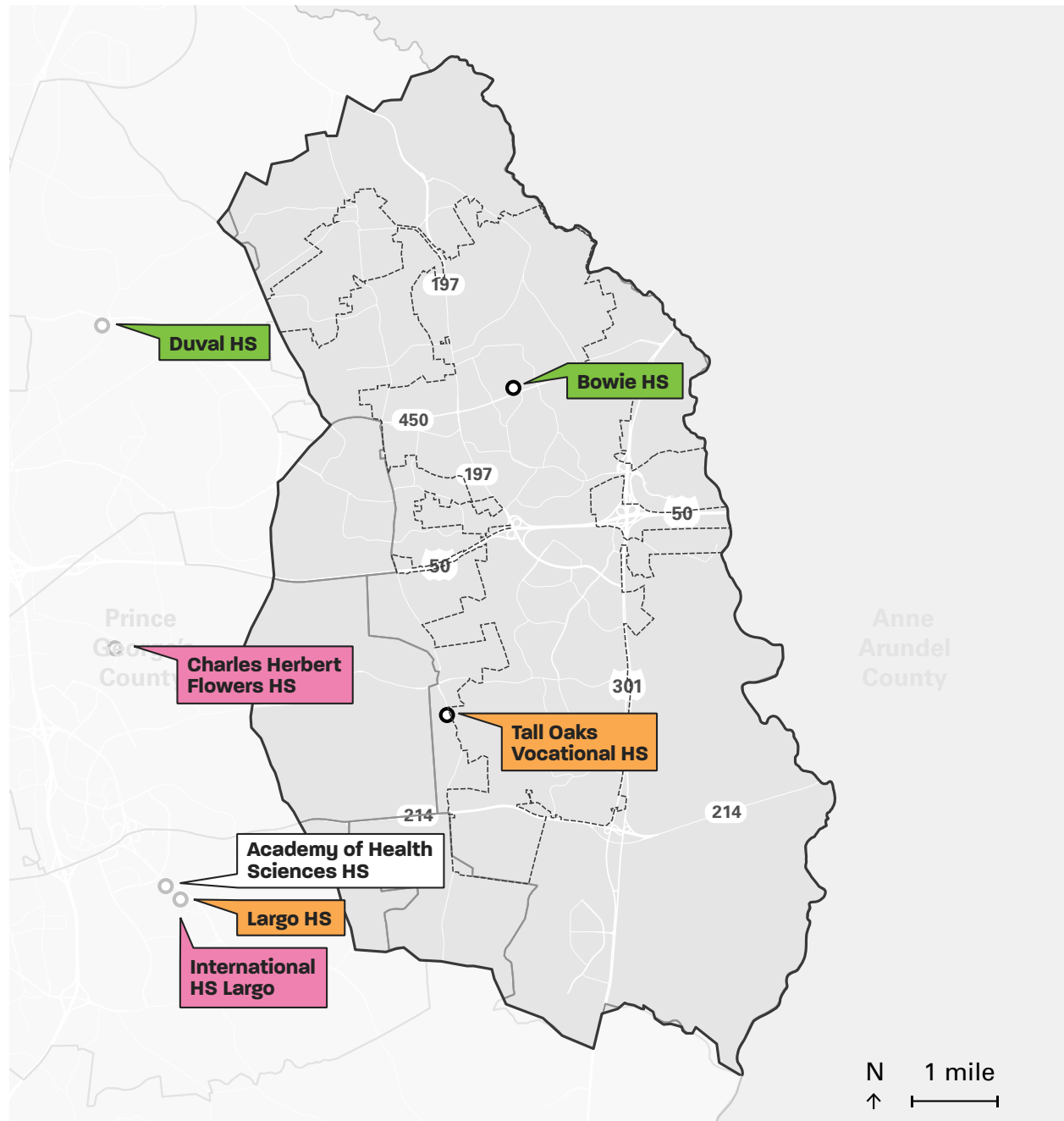


Middle School Utilization Rate



Source: Prince George's County Public Schools.

Map 84. High School Utilization of Public Schools Serving the Master Plan Area



High School Utilization Rate

- | | | | |
|------------------------------|--------------------------------|-------------------------------------|-------------------------------|
| High School Attendance Areas | Under-utilized (less than 80%) | Over-utilized (90–120%) | No Data or Under Construction |
| High School | Optimum utilization (80–95%) | Very over-utilized (more than 120%) | City of Bowie |

Source: Prince George's County Public Schools.



Yorktown Elementary School.

Source: M-NCPPC.

challenges in the master plan area and the County as a whole (anticipated to begin in 2020).

Maps 82–84 examine utilization rates in elementary, middle, and high schools within the vicinity of the master plan area. All schools with attendance area boundaries overlapping the master plan area are included. Compared to elementary schools, middle and high schools are relatively better utilized, with three middle schools falling within PGCPSC's target utilization range of 85 to 100 percent of SRC. With the exception of Thomas Johnson MS, all other middle schools are utilized below 85 percent, suggesting issues of persistent under-enrollment may exist in and around the master plan area.

Three of seven high schools within the vicinity of the master plan area for which we have data are utilized between 85 and 100 percent, PGCPSC's target utilization range. Bowie High School falls within this range.

Discussion of Challenges and Opportunities

Across facilities, areas seeing residential development in the master plan area have comparatively less access to these facilities than older residential communities. Should the County seek to increase residential densities in these areas, additional public facilities may be required. The fire department has begun this process, identifying three potential sites for new stations.

Access to public facilities in the City of Bowie and older residential areas within the master plan area is very good, with the large majority of residents of these areas living near a library or community center and within the coverage areas of fire stations and existing police beats.

Nevertheless, most parcels in the master plan area have been developed to their zoning envelopes and the population in the master plan area is projected to increase only modestly through 2024.

